SUPPLEMENT.

The Mining Journal,

AILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Original Correspondence.

HE NOVA SCOTIA GOLD REGION—No. II.

erting to the reports on the Waverley and Sherbrooke ts, published by Prof. Hind, under the authority of the of Mines, in 1869; the report in connection with the Survey of Canada, "On the Gold Region of Nova Scotia," terry Hunt; the "Acadian Geology," by Dr. Dawson; logy of Nova Scotia," by Prof. How; Mr. Heatherington "Guide to the Gold Field's of Nova Scotia," all pub-68; together with the various reports by Messrs. Campan, Poole, and others, Mr. SELWYN* introduces his Geoervations with the subject of veinstones, and states that:—
, as in Britain, and in Australia, the known gold-bearing veinstone strata of eozoic, or palæozoic age; chiefly Silurian, but it is also und in crystalline rocks of later date, associated with them in the , veins, or masses, sometimes parallel with, but often intersecting, n. It consists commonly of vitreous, white opaque or milky quartz; reat variety in colour, structure, and external appearance, dependent less ferruginous character, and on other circumstances connected n and mode of occurrence. It is, almost without exception, accompickel, or by common pyrites; the sulphurets of lead, zinc, copper, rarely bismuth, are likewise characteristic accompaniments of many well as bitter-spar, calc-spar, sulphate of baryta, and other mine. which, however, often occur in sufficient quantity to be of much im-

ple strata in the gold districts with which I am acquainted, are always intimately associated with divers kinds of crystalline (igneous?) ctoria and Nova Scotia these are chiefly granitic and gneissic; while se of Quebec, and in Britain, serpentinic, dioritic and felspathic re prevalent."

ed author is not aware that any of these crystalline rocks ielded gold either in Britain or in Nova Scotia; and the their having done so in Australia are not numerous; the and remarkable being that of the dioritic dykes, with ichly auriferous quartz veins intersecting them, numbers ere found in the gold district of Wood's Point, Victoria, lates and sandstones, probably of Upper Silurian age.

appear, however, to him, apart from secondary causes in with the alluvions, that a general similarity in the geoditions and associations under which the gold occurs auriferous regions, and thus the probability of the ocveins bearing gold, or any other metal or metallic ore, icular region, can never be determined by the geological ocks alone, but rather by the physical conditions and inwhich they have in each case been subjected since their position.

ng to the origin of mineral veins, Mr. SELWYN considers igneous agencies, in the sense of injection or fused matter, l very little, if any, part in their production, or in the n of the ores found in them, and also that auriferous s present no features which would serve to distinguish any other class of ore lodes, either in their origin or in of occurrence; and on these grounds he writes:—"I eld the opinion that there was no *à priori* reason why hould not contain gold in sufficient quantity to be proected at any depth to which ordinary mining operations ied." His opinions on that point are quoted in Murluria" at length.

that most mineral veins and their ores are due to infil- segregation of mineral matters, chiefly through the ubterranean mineral-charged gases and thermal waters, and percolating under favouring conditions into and cks and openings which have been formed in the crust of ither by seismic, plutonic, or volcanic action, or through and cooling, causing contraction and corrugation; there him no reason, physical, chemical, or geological, which rmine all or the greater part of the gold in auriferous rds those particular parts which now constitute their rops, but which at some remote earlier period were cer- hundreds of feet beneath it.

t of the age of Nova Scotia veins, Mr. SELWYN remarks good evidence in the well-known occurrence of gold in ferous conglomerates at Gay's River that at least some are of pre-Carboniferous age; but, on the other hand, reason why many others may not be even of tertiary diately preceding the denudations by which the recent lluvions were formed.

fterwards observes that at first sight, perhaps, the solu- question how and when the lodes were formed may e of no practical importance; but on further considerabe seen that it is so in two ways—first, as regards the over which the leads may probably be found; and regard to the probable depth to which such intercalated ls are likely to extend.

Australia or in Nova Scotia," he continues, "have I yet met with I consider of such a nature as to prove with certainty the truth of ontemporaneous origin with the slaty rocks of the quartz layers, ore inclined to agree with the remarks of Lieber ("Geological Surarolina," 1856, page 10) where he says, 'All veins are younger than nd hence it is that many writers regard those only as veins which nconformably with the country rocks, for it is evidently quite imeculiar relative position is occupied by the two as concerns the neral characters of the veins. Crevices may be formed in any diis but reasonable to suppose that the planes of stratification, being s cohesion, will at least as readily present themselves for the formaor fractures as those planes which traverse the more compact and tions of the rock.'"

erous quartz veinstone of Nova Scotia is strictly of the rily known as vein-quartz, and on this account is not to the gold-bearing quartzite and quartz rock of North arolina. Besides this there are numerous facts in con- the gold lodes of Nova Scotia which are opposed to f their having been formed at the surface, together with cks, and are strongly in favour of the opposite view, mmon with other observers, Mr. SELWYN entertains— the deposits of auriferous quartz in Canada have been e the deposition and consolidation of the rocks with are now associated. This is, he believes, equally true of an gold veins.

bution of the gold in "streaks," "pipes," or "pay-chim-

neys" in the quartz veins is, Mr. SELWYN observes, a feature common to Nova Scotia, to Australia, and to California, and he adds:—

"These streaks are always found to have a dip more or less transverse to the dip of the vein; they sometimes vary greatly in width at different depths on the course of the vein, and are, therefore, more or less lenticular or wedge-shaped, not unfrequently dying out altogether before reaching the surface. In some veins they are stated to occur at no great distance apart, while in others they are separated by great thicknesses of comparatively barren quartz. Thus, in following the veins downwards, if the streak happens to be narrow, it is speedily passed through, and the sudden impoverishment of the quartz causes a mine to be abandoned, when by a little further exploration in the direction of the dip of the streak a very different result might have been obtained."

The constant connection with anticlinals seems to be as characteristic of the gold region of Nova Scotia as that of California.

Encouraging to investors in mines must be the views expressed by the Director of the Geological Survey in regard to permanence in depth, for he says that:—

"The depth to which mining can be successfully carried is, under any circumstances, so infinitesimally small when compared with the distances through which the forces supposed to be the cause of the vein fissures must have operated, that there need be no apprehension of the limit of the latter, in depth, being reached at distances less than those through which we know them (from surface evidence) to extend horizontally in directions parallel and transverse to the anticlinal axes; and as these distances are reckoned by thousands of feet, it may very safely be conjectured that there is practically no limit to the depth to which the leads may be successfully followed. At the same time the facts observed would suggest the probability that the largest, best, and most permanent veins will, as a rule, be those which are nearest to the anticlinal axes; and, likewise, that veins of this character are not likely to occur either in synclinal outcrops, or where there are great thicknesses of strata nearly horizontal, or uniformly inclined in one direction. But in such situations true fissure veins and cross lodes, either in dislocations or in shrinkage cracks may be abundant, and of such a character as to be capable of being mined with profit.

Mr. SELWYN estimates the extent of the Atlantic Coast series of stratified gold-bearing slate and quartzite of Nova Scotia, exclusive of Cape Breton Island, at 3500 square miles. His first impression of them, formed after personal examination, and based on mineralogical and stratigraphical considerations only, was that they represented the groups known in Britain as the Harlech grit or quartzite, and the Lingula-flag series; the former mapped as Cambrian by the British Survey, and the latter as the lowest member of the Silurian system; and in confirmation of this remarks that he subsequently detected in the grey sandy and flaggy pyritous slates at the Oven's Bluffs, in Lunenburg county, numerous specimens of the genus *Eophyton*, regarded by Mr. BILLINGS, the accomplished palæontologist, as characteristic of the Primordial Silurian epoch.

Mr. SELWYN sums up his geological observations with the statement that—

"In general aspect, and in the succession of the beds, the whole series in Nova Scotia closely resembles the Cambrian and Lingula-flag series of North Wales, which is likewise characterised by holding auriferous quartz veins. The lower members of the series (Cambrian) there consists of a succession of thick bedded greenish-grey felspathic grits and sandstones or quartzites, with intercalated slaty bands, and these are conformably overlaid, as the similar beds are in Nova Scotia, by a set of black earthy and pyritous slates and sandy beds (the Lingula-flags), with quartzose mineral lodes. Numerous associated dioritic dykes are likewise characteristic of the series in both regions. Thus mineralogical characters, physical aspect, and palæontological evidence all combine to prove the above view to be correct regarding the age of the Atlantic Coast series of Nova Scotia."

* Observations on the Gold Fields of Quebec and Nova Scotia." By SELWYN, F.G.S., Director of the Geological Survey of Canada, &c. ner and Co., 77 and 79, Ludgate-hill, E.C.

FOREIGN MINING AND METALLURGY.

The Belgian Government is said to be receiving offers for coal at lower rates. Some coal has even been offered at 16s. and 15s. 2d. per ton. A contract is also stated to have been concluded for Newcastle coal at 16s. 9d. per ton, delivered free at Antwerp. In presence of the more and more precarious state of metallurgy and all other industries, there appears to be a strong probability of a decline in Belgian coal quotations. The Bonne Fin Collieries Company will pay on Aug. 18 a first dividend for 1873 of 1*l.* per share.

There appears to be a growing feeling in France that coal quotations will decline. A coal consumers' syndicate has been formed at Lille; this syndicate has not contented itself with mere declamation, but two delegates have been sent to England to endeavour to effect purchases. It is wittily remarked that just now confusion appears worse confounded in the coal trade. Thus the consumers of the Pas-de-Calais are importing English coal; Liége is laying in supplies of German coal; and the English are importing Belgian coal. Nowhere does an equilibrium prevail, and nowhere are prices at a normal level. Rouen, and all the manufacturing towns of the West of France, are supplying themselves almost exclusively with coal from the other side of the British Channel. Paris, which is a large consumer, hesitates between England and Germany, and neglects Belgium and the markets of the North of France. Very little coal, accordingly, is now reaching Paris by water, while a good deal comes to hand by the Western of France Railway. A check is noted in the basin of the Loire, but this market has altogether a local influence, and its variations more especially interest the South of France and Italy. The prorogation until 1877 of the treaties of commerce between England and Belgium has extricated industry from a false and provisional state in which it had been placed for more than a year past.

The tone of the continental copper markets has been rather firmer. At Paris, Chilian in bars delivered at Havre has made 85*l.* 10s.; ditto in bars at Paris, 85*l.* 10s.; ditto in ingots, 88*l.*; and Corocoro minerals (pure standard), 86*l.* per ton. At Havre the quotation for Chilian in bars has been 82*l.* to 84*l.* 10s. each. At Rotterdam, Drontheim is quoted at 50 fls. to 52 fls.; and Russian crown, 51 fls. The visible supply of Banca tin in Holland at the close of July, 1873, was 181,924 ingots, as compared with 120,271 ingots at the close of July, 1872. The visible supply of Billiton tin in Holland at the close of July, 1873, was 28,853 ingots, as compared with 33,600 ingots at the close of July, 1872. The current price of Banca in Holland at the close of July, 1873, was 79½ fls., as compared with 96 fls. at the close of July, 1872. Banca, delivered at Havre or Paris, has been quoted at Paris at 144*l.* per ton; Straits, delivered at Havre or Paris, 150*l.* per ton; and English, delivered at Havre or Rouen, 147*l.* 4s. per ton. At Amsterdam, Banca has brought 80 fls.; and Billiton, 79 fls. The lead and zinc markets have been very quiet, and comparatively few transactions have been noted. At Paris, French lead, delivered at Paris, has realised 23*l.* 12s. per ton; Spanish, delivered at Havre, 23*l.* 4s.; and Belgian and German, delivered at Paris, 23*l.* 12s. per ton. At Rotterdam, Stolberg is quoted at 14⅜ fls.; Spanish, 13¾ fls.; and German, of various marks, at 14 fls. At Paris, Silesian zinc, delivered at Havre, has brought 27*l.* 4s.; other good marks, delivered at Havre, 27*l.* 12s.; and ditto at Paris, 27*l.* 8s. per ton. At Amsterdam, Silesian has been quoted at 13 fls. to 13¼ fls.

The state of the French iron trade is not worse than it was last week, but, on the other hand, it is not better, and this is deeply to be regretted, as every day's play aggravates the position of a great number of producers. But what is to be done? Prices cannot be reduced to any great extent, because coal is dear, and the concessions which are made are not sufficient to bring orders, because consumers regard a fall in coal as imminent, and they are convinced, and probably with reason, that this fall will be the signal for a further important decline in all metallurgical products. Recent drought has slackened the production in all the hydraulic works of the Ardennes and the Haute-Marne, and in consequence of this certain special products maintain their quotations tolerably well. Upon the whole, however, prices are badly sustained. Refining pig-iron is in little demand, and is not even quoted, everyone buys and sells upon the best terms which can be secured. Casting pig No. 3 is held at 6*l.* 12s. per ton. Merchants' iron No. 1 is dealt in at 7*l.* 4s. per ton, but the margin between classes is not very closely maintained, in other words, the scale of 16s. per ton between classes is strictly kept up. It is feared by some that this state of things will involve some confusion in sale prices and a fresh depression in quotations. Affairs at Paris have been almost nil, and there is scarcely anything interesting to notice.

It is stated that several rolling mills are on the point of suspending their operations at Charleroi. The sole impediment in the way of a reduction in quotations is the impossibility which ironmasters recognise of making the least reduction in quotations without working at a loss. At a recent meeting of the shareholders of the Montigny-sur-Sambre Company it was announced by the Council of Administration that, rather than work at a loss, they proposed to suspend the working of the rail rolling-mills, and keep only one blast-furnace in activity; in other words, the company will endeavour to provide for its current outgoings, including obligation interest, by merely turning its minerals to account. With reference to the recent adjudication of rails for the Belgian State Railways, it appears that the Bochum Company tendered for the whole 24 lots, including the accessories, at 17*l.* 12s. 3d. per ton for the steel rails, and 12*l.* per ton for the iron rails. Belgian industrials are beginning to rally from the defeat which they sustained at this adjudication; they contend that the proprietors of Belgian works could have delivered steel rails at equally cheap rates if they had chosen to have done so. Nevertheless, the fact cannot be overlooked that some high-class German works have apparently marked Belgium as a future desirable field for their operations. Upon the whole, the Belgian iron trade may be said to present the same inertness, the same feebleness, and the same prices.

MINING IN COLORADO.

SIR,—As Colorado is a country which has of late created a considerable stir in the mining communities, both of the United States and of Europe, your readers may possibly be interested in a brief account of what is fast becoming one of its leading mining localities.

The Gold Hill, Boulder county, from 1859 to 1866 held its own amongst the foremost of the gold districts. After that time, owing to the ignorance of the miners as to the properties of silver ores, with which the hill abounds, and to the inability of stamp mills to treat the same, the district was abandoned, and all its houses, mills, &c., left to crumble away to ruin. Some half-dozen, however, of its settlers, being strong in faith, remained on, the laughing stock of their old comrades, who sought what they considered better fields in the surrounding districts of Golden, Central, Carrabou, Long's Peak, &c. Two of the faithful, Christopher Holt and Joe Stepler, a Dane and German respectively, worked on alone at what they instinctively felt was to make their fortunes. This was a lode named after the well-known lion chief, Red Cloud. They had their ore tried from time to time, with no very great results, and no later than last July they took specimens of some new looking stuff to the United States mint, at Denver, for the same purpose. To their intense chagrin, the manager told them they had better keep their $2 in their pocket, as the rock was evidently worthless. More from curiosity than faith, however, they persisted in having an assay, and I leave you to imagine their feelings when the result was returned at $22,000 to the ton. Perseverance had gained the day, and, after years of fruitless labour, their fortunes fell upon them, quite unexpectedly, from the clouds. As usual, there were plenty only too ready to invest in such an enterprise; and, as usual again, capital got the best of it. Joe Stepler retired from the firm with $15,000, and Christopher Holt retained a sixteenth interest, having disposed of the rest for the comparatively small sum of $12,000.

Since last July this mine has been considerably developed by its new owners. The shaft is 210 ft. deep, the tunuel 175 ft. long, and quite a lot of stoping has been done. At a low computation, it has turned out in the last eleven months over $200,000. Before leaving the Red Cloud, I would mention that Christopher Holt died six weeks ago, loved and respected by all his old comrades. Years of hard and ceaseless labour was rewarded just as he was making preparations to return with his well-earned laurels to his home in the Old Country, by death. Alas for poor humanity!

Although the success of the Red Cloud was kept very quiet, the results gradually leaked out, and prospecters came dropping in from all quarters. The hill has many advantages. It is at an elevation of only 8000 ft. above the sea level: not too cold for working in in winter, and always blessed with a refreshing breeze in summer. But what is of most importance is the distance for the transport of its ores. Boulder is only 8 miles distant, the road is a good one, and freight to Denver, where they have the best reduction works, is only $7 per ton. What more can a miner wish for? Gold, silver, timber, and water in abundance, a lovely climate, and easy transport for imports and exports. These virtues alone would be sufficient to make a reputation; but what surpasses them all is the fact that this is said to be only the third place in the world where tellurium has been discovered, the others being California and Prussia, and where tellurium exists the ores are always richest. Petzite and galena are also found in considerable quantities, and zinc exists only in small proportions, leaving the ores easy to be worked.

Amongst the other mines in the district the principal are—the Horsefall. Developed more than any other mine on the hill, it was deserted in 1866, but was taken up by a company about a month ago, on a bond for $50,000, payable in three years. The two main shafts—225 ft. and 150 ft. deep—were full of water, but are now clear, and first-class looking ore is already coming out in consider-

able quantities. The crevice is large, but the "big pay" streak, whose assay runs from $1000 to $20,000 per ton, is only from 4 to 12 inches in width.

The Hoosier was bonded recently for $100,000 by Messrs. Breed and Cutter, late owners of the Carrabou. It is considerably developed, and has the largest crevice of all the mines in the district, ranging from 12 to 50 ft. in width. The amount of ore is necessarily very large, but as yet only average about $50 per ton.

The Cold Spring is only 30 ft. north from the Red Cloud at the surface. The shaft is only 100 ft. deep, but its drifts send up a never-failing supply of tellurium, which assays seldom less than $10,000 per ton, and sometimes considerably over $100,000. I should have mentioned, when speaking of the Red Cloud, that at the mint in Denver there is a specimen of its ore, about the size of a man's head, which assays $140,000 per ton, the largest assay, I believe, ever made from anything but virgin gold.

The White Rock is 100 yards south of the Red Cloud. It was bonded a few weeks ago for $30,000, and a company is already nearly raised on it, with a capital of $200,000.

The Gold Ring lies 50 yards south of the White Rock, and was recently bought by some foreigners. The shaft is only 20 ft. into the rock, but the indications promise results equal to those of the Red Cloud or Cold Spring.

The Black Cloud was bonded two months ago for $20,000, and is considered "dirt cheap."

The "7·30" was bonded two months ago for $20,000.

Many other mines are showing splendid prospects, but as yet there are few shafts sunk over 40 or 50 ft., the district being quite new, and it is not improbable that before long Gold Hill will rank amongst the "upper ten" of the gold regions of the world.

For the present, however, I have taken up sufficient of your valuable space, and will leave minute details for a future occasion.

I may as well state before concluding that my object in writing is merely to give information to those who take an interest in what is going on in the mining world, and not to encourage the immigration of labouring miners, of whom we already have a surfeit.

Gold Hill, Boulder County, June 30. ENFIN.

P.S.—In explanation of the very high rates of some of the assays mentioned above, I should state that the richest ores are always found in pockets, never very large. In the Red Cloud the contents of these run from $1000 to $140,000 per ton, but the largest returns they have received from reduction works for any quantity was at the rate of $3000 per ton. The second and third class ores run from $100 to $600 per ton.

THE ZENO ENQUIRY—COAL.

SIR,—Subsequently to forwarding my communication of last week, I have received the enclosed report of the examination at Hull of my friend, M. Vassard, which, owing to the importance of the subject, you may, perhaps, consider worthy of publishing in this week's Journal, and may just add that the enquiry was conducted before the stipendiary magistrate, Mr. Wrangham, aided by two Government assessors; Mr. Darley, nautical engineer; and Captain Edward White, R.N., and that M. Vassard's evidence elicited marked approval from the Court. Next week I hope to be enabled to hand you the report of the Bench to the Board of Trade, and thus render complete the substance of this important enquiry. W. WHITE.

Laboratory and Assay Office, 25, Finsbury-place, E.C.

I have for five years studied the qualities and descriptions of English coal. I have been in England four years. I now hand into the Court my opinion as to the explosive qualities of coal. I have been requested by the Board of Trade to examine into the quality of coals, and particularly the Welsh coals. I have read the evidence which has been taken on this enquiry, which has been furnished to me by the solicitor of the Board of Trade. I there find that the explosion took place in consequence of the emission of an explosive gas. The Cardiff coal—hard, brittle coal—contains light carburetted hydrogen; that was the coal on board the "Zeno." The Cardiff coal gives off at 61° Fahr. three-fifths of a cubic foot of carburetted hydrogen gas per ton in half-an-hour. Cardiff coal, exposed to a temperature of 100° Fahr., gives off per ton in 36 hours 4 cubic feet and 138 cubic inches of carburetted hydrogen gas, after giving off 2 cubic feet of same gas at the ordinary temperature in 12 hours. This gas is inodorous, and at once ignites on the application of a light. A person going into a fore peak, where this gas was, would not smell it, and it would not effect his breathing; it is not poisonous; he could not, without a light, tell its presence. To prevent explosions of this sort I should adopt a system of ventilation by shafts. I would recommend that coal should be exposed for more than eight days before it is shipped. It would then be not quite so liable to generate so much gas. Owing to the liability of the coals to emit gas they ought to be exposed for several days. The coal ought to be examined before it is put on board to know what quantity of gas it gives off. This could be done by a properly arranged cylinder; the amount of gas in a given quantity of coal could be thus ascertained, and the captain of the ship informed how long he could with safety keep the hatches shut. I have long studied the explosive characters of coals. I have recommended ventilation as a means of preventing explosions. Coals are injured by being exposed to fog. The fog would moisten the coal, and render it liable to heat. The fog has no effect upon coal to generate gas. The reason why more explosions occur in coal mines during the foggy weather is because the ventilation is not so good. The effect of fog on coal has a tendency to cause spontaneous combustion, and that only after lengthened exposure, and that on small coal. I have examined the drawing produced by Mr. Darley, showing how vessels may be ventilated in various ways, and I certainly approve of that mode of ventilation. If this mode of ventilation could be applied to all vessels it would prevent explosions, and would be effectual in allowing the gases to escape. The ventilator shown in the drawing carrying air to the bottom of the vessel is of great importance, inasmuch as the carburetted hydrogen being lighter than the air admitted into the hold would force the gas upwards. If one of those ventilators had been introduced into the forepeak of the Zeno I do not think the accident would have taken place. The plan produced is complete for the purposes intended.

Cross-examined by Mr. Hearfield: The emission of the gas in Cardiff coals is caused by the breaking up of the larger fragments, and, therefore, opening the little cells in which the gas is contained. Each cell contains gas—it is the friction or breakage which liberates the gas; and burning also liberates the gas; that gas can be smelled. The gas contained in the Cardiff coal is carburetted hydrogen, or by a simple name "Welsh gas," and is the same as fire-damp in mines. Coals newly taken from a pit will emit a very large quantity of gas. About eight days ought to elapse before Cardiff coals should be put on board ship after being taken from the mine. If shipped earlier I should call them green coals. A captain of a ship would not know what were green coals; he ought to have been informed of that, especially as to Cardiff coals. If these coals had been kept eight days they might have been shipped, and the hatches kept down for 30 hours with safety. The captain ought to have known more than the mere fact that they were Welsh coals; he ought to have been told they were green Welsh coals. In my opinion it is not proper to ship Cardiff hard brittle coal at any time after any amount of exposure. It would not be safe to ship them at all. I think the effect on these coals was caused by the action of the ship. Any kind of coal is liable to break by the motion of the ship. If there was no motion of the ship there would still be an emission of gas. The ordinary motion of a vessel at sea will pulverise coal. If these coals had been in a perfect condition when shipped I should not have advised the captain to take off the hatches during a fog. In case the coals were shipped in good condition on the Saturday, and the hatches were closed on the vessel sailing on the Sunday, and a fog came on and continued during Monday, and the hatches were opened on the Tuesday morning, I should say they were opened as soon as they ought to have been. I never heard of a dry fog. There is always fog in the atmosphere, but you cannot see it; as soon as you see it we call it fog. If the hatches were left off the fog would saturate the coals; it would affect the coals worse than rain. It would not be proper for a captain of a ship to keep open his hatches during rainy weather. During foggy weather to do so would be much more improper. In my opinion it all comes to this, that these coals were shipped in an improper condition—too green from the colliery. Independent of experiment or notice given, the captain or owner would have no means of knowing the dangerous nature of the coals. If the light had been encased no explosion would have taken place. If the lamp had been supplied with air from the bottom of the lamp an explosion would have taken place. Practically there would be no difference between an ordinary ship's lamp (encased) and a naked light. It would require a Davy lamp to prevent an explosion just as much as in a coal mine, if proper ventilation was not given. Even if vessels were properly ventilated, as shown by Mr. Darley, I should never advise coals to be shipped until they had been several days from the pit.—By Mr. Wrangham: If a ship is loading the breakage is very great, and if a man were to go into the bunker with a naked light, even if the hatches were off, an explosion might take place, as the gases would be then escaping very freely. A ship supplied with Cardiff hard brittle coal should use only Davy lamps.—By Captain White: I have never heard of coal being washed before it has been shipped. If the coal is wet when shipped it will give out gas just as soon as if it was dry; the effect of wet on the coals is to produce spontaneous combustion, but this very rarely happens when the coal is in large lumps. I consider the hard brittle coal of Cardiff to be more dangerous than other coals, owing to its explosive character. The effect of fog on the coals would not render them more explosive. I should consider it more prudent to keep the hatches off than to close them down. The Cardiff coals are not liable to spontaneous combustion. I consider it would be much safer if the cargo was divided amidships fore and aft the ship, by planks place Venetian-wise, so as to admit of the gases passing out. The space should be 15 or 18 inches wide. I also consider that a draught might be made by letting the pipe from the hold be led to the galley fire. These gases are all light gases. There is only one explosive gas—carburetted hydrogen: it is half as light as air; if the ship was fitted with these ventilating planks all the gases would rise to the surface. If each hatchway was fitted with a pipe 1 foot in diameter, that would be sufficient to allow the gases to escape. This explosive gas of carburetted hydrogen will explode at a heat of 123° or 124° Fahr. There are no means of telling when this gas is present, except by applying a light. The coal upon which I made the experiments I do not know how long it had been brought from the mine. It would be better not to ship Cardiff coal at all, but if shipped I recommend proper ventilation on board.—By Mr. Darley: I think the loss of the Zeno was not from spontaneous combustion, but by the application of the flame to the gas. The humidity of the atmosphere would not have a tendency to soften the coal. If the coals were small and not at the top it would make very little difference in the rising of the gas. I am of opinion that the gas that found its way into the forepeak was generated in the forehold, making the forepeak into a receptacle for it. The deck and bows being both air-tight and water-tight, and the bulkhead not being air tight, the tendency of the gas to be pressed into the forepeak from the body of the coals, there being no agent to drive it back again, would cause the air to gather in the forepeak. I think the captain acted with great discretion towards the cargo by keeping the hatches down during a dense fog. My opinion is that any kind of ventilation that carries off the gas must be good; we must endeavour to find the best mode. I think that the Board of Trade should make it imperative that a good system of ventilation should be enforced in ships carrying coal. I think the coal-owners should be compelled to give written notice to the captains and officers of ships as to the peculiar properties of the coals they ship, and the quantity of gas they are likely to give off in a given time, and the length of time the coals have been wrought in the pit. I think perforated iron tubes laid among the coals would be injurious, as the water might come in contact with the iron and produce hydrogen by its electric affinity, which is highly explosive. If a cone had been supplied to the forepeak, and the fog had come on, the fog, being heavy, would have descended to the bottom and driven the gas out, provided there was an escape for it.

Having given a lengthy hearing to the case, the Bench attached no blame to the captain, and his certificate was, therefore, returned to him. The mate, Joseph Whalley Taylor, having been informed of the dangerous nature of Welsh coals by the agent at Cardiff, his certificate was suspended for three months from the date of the commencement of the enquiry.

THE COLLIERS' STRIKE IN SHROPSHIRE.

SIR,—I fully concur in the observations by Mr. Jones and the members at the meeting of the South Midland Engineers, at Wolverhampton, as appears in the Supplement to last week's Journal, relative to the strike at the Lilleshall Company's Works. I think the Legislature and the Inspectors are completely outstepping the bounds of prudence, and compelling others to do what they would not like to do themselves, and the difficulties they have created, and are creating, tend to paralise the whole machinery of our coal workers, as to workmen and managers; and as Mr. Smith (Lord Dudley's agent) said some time ago before the Coal Committee, "The Acts of the Legislature will soon extinguish the race of colliers," or something to that effect. The said Committee sat to hear evidence as to the cause of the high price of coal. Still every Act of the Legislature (Mine Inspection Act particularly) tends to raise the price of coal.

Touching the matter of weighing each man's coal, there are circumstances to be taken into consideration which, perhaps, the law makers have not thought of. In some coal fields there are only two or three pits for several thousand acres, and the working from one bottom or seam may be carried on for 50 to 100 years, and the men work in separate places, in which case the coal of each man may be weighed. But in Shropshire and parts of South Staffordshire, owing to the various kinds of minerals necessary to be worked for the several required purposes, a great number of pits have been sunk years ago, and probably there is a pit on the average for every 10 acres, and in many instances only 5 to 50 tons of coal per diem may be worked from each coal pit, and the workings at each pit are often being changed from one bottom or seam to another. Now, weighing each man's coal would necessitate a weighing machine to be put down at each pit, and a machineman to be in attendance, also the whole plant would have to be altered to facilitate the weighing, and there is also the difficulty to contend against of separating each man's coal underground on the face of the work (Shropshire being entirely long work), which very difficulty would be a source of continual wrangling amongst the men themselves, there is sure to be dissatisfaction between the men, chartermasters, and masters or owners (Shropshire minerals being almost entirely worked by chartermasters or contractors). Just fancy a weighing machine and machineman at each pit to weigh 5 to 50 tons per diem, and the attendant extra cost per ton to the public. It seems to me preposterous, and an unnecessary tax upon the public, under the condition the mines now are after so many years' work, and no plans having been kept till within the last 30 years. It seems to me that, owing to the circumstances, the old principle of the colliers and several parties engaged underground working by stent, or holing a certain number of yards for a day's work, is the most fair mode of proceeding. Besides, if the holer or hewer is to be paid by the day there must be some standard as to what is a day's work, and the mode hitherto in vogue of holing so many yards for a day's work is the best standard. It is not stated in what way the ironstone workers are to be paid (hitherto paid by the day on stent), but if by the ton there are insuperable difficulties, as the stone and clod have to be brought to the surface, and the stone picked out by girls; it is then stacked, and sometimes not weighed off for years; it would, therefore, be impossible to keep the stone worked by each man separate, either underground or on surface, therefore a payment per ton to the worker is out of the question. S.

THE IRON TRADE.

SIR,—I venture to solicit your powerful aid in calling attention to the present critical state of one of the most important trades in this country—the Iron Trade.

I need scarcely recount the history of the last two years, as it is, no doubt, well known to most of us that the trade has passed through a season of great prosperity, during which the difficulty has been to make iron fast enough to meet the demand. The natural consequence inevitably followed, and prices were forced up to a point which entirely put a stop to the demand from abroad; this was the state of things just a year ago, and in the month of October the manufacturers, finding themselves with little or nothing to do, reduced the price 4*l.* per ton, with the effect of causing a revival of the demand, so that in January prices again began to advance until they reached the same point as they had attained last year, and with the same result—an immediate and complete cessation of the demand from abroad.

During these violent fluctuations in this country the Americans have been steadily and rapidly extending their works, until at the present moment not only is it next to impossible to sell English iron in the United States, but we find the American ironmasters competing with us in the Canadian market. Meanwhile, the price of English iron has already declined 2*l.* per ton, without having any appreciable effect whatever upon the demand, and I think it may be taken for granted, from the experience of last year, that at least another 2*l.* per ton must come off before we can look for any revival.

If this were all, however, I should not have thought it worth while to trouble you with the present communication, but have left demand and supply to regulate prices, as they surely will do in time. I greatly fear, however, that with every month's continuance of the present scale of prices, our foreign competitors are gaining more and more strength to maintain the struggle for the trade of the world in iron, and we may find ourselves by-and-bye left to lament the folly which, by forcing up prices to an unnatural level, has effectually alienated a trade which we have always looked upon as our prescriptive right.

The late high prices of iron have brought with them the most exorbitant demands from colliery owners and workmen, who, learning their power, are now loth to meet the altered state of things by abating one jot from their extravagant pretensions. My object in troubling you with this letter is solely to issue a solemn note of warning to the coalowners and workmen as to the probable consequences of a persistence in their present policy. Engaged in the iron trade as a merchant, and with connections nearly all over the world, I am in a position to know exactly what is going on, and I can most solemly assert my belief that a very few months more of the present high prices of iron will have a most disastrous effect upon the foreign demand for all future time.

The iron manufacturers are willing—nay, anxious—to reduce prices, but they cannot afford to do so at the present prices of coal and labour. Are the coalowners prepared to sacrifice their best customers by demanding a price they cannot afford to pay? It is pretty well understood that the colliery proprietors are realising fabulous profits at the present time, and though I do not for a moment dispute their right to get the best price they can for their produce, I would yet beg them to consider whether their policy is wise, with a due regard to their own future interests.

In conclusion, I will give you an extract from a letter received last week from some English friends in America, which will show you how the present state of affairs is viewed on that side of the Atlantic:—

"We feel confident that the manufacturers and producers of the raw material on your side will before long be convinced of the actual necessity to bring down prices still more if they desire to retain any foreign trade. To do this there must be a determined and prompt action on all sides, for already too much time has been lost at a sacrifice to English manufacturers which it would be impossible to estimate. All the mischief thus far caused must react on those who are responsible for it—the working men, aided, doubtless, to some extent by proprietors of coal and other mines, who were too grasping. We warn you that it will require a decided ... hard push to get back anything like the business once enjoyed by England. ... iron manufacturers in this country are a strong body, backed by men of ... capital. Their opportunity has come, and they will not let it pass without a ... struggle, you may depend. So we say, use your every effort to bring prices down ... and by advice or otherwise try to place before the makers on your side the facts ... their true position, so that they may make an effort to retrieve the errors of ... past before it is yet too late."

I trust that you will lend the powerful aid of your pen to save the English iron trade before it is too late.

Liverpool, Aug. 1. A MERCHANT.

"CUMBRIAN METALLURGY—No. III."

SIR,—In the Supplement to last Saturday's Journal your correspondent, writing on the use of iron ore in the furnaces of the West Cumberland Iron and Steel Company, at Workington, states the Irish ore (Antrim) used contains 10 per cent. of alumina, 20 per cent. of silica, and 42 per cent. of iron. I fear this must be an error, as no Antrim ore contains the amount of silica named. If the figures referring to alumina and silica were reversed it would be the proportions of some of the ores only; most of the aluminous ores of Antrim contain only 6 per cent. of silica, and 25 per cent. of alumina. The purity of this ore (it being almost entirely free from sulphur and phosphorus), and the large amount of alumina contained, give rise to its great value for mixing purposes and the production of Bessemer pig-iron.

Belfast, Aug. 5. SILAS EVANS.

ORE DRESSED BY SEA WATER.

SIR,—During hot summer seasons the profits, and consequently the dividends, of many extensive mines throughout the kingdom are seriously interfered with by there being an insufficient supply of water for the efficient and economical working of the mine. It is true that all the machinery may be driven by steam-power. This, however, entails much heavy and continuous expense, and even when this is done there still must be a good supply of water for the ore if the mine is of any size or the output large. A multitude of schemes are resorted to for preventing waste and storing every available drop of water, but the net result is not, as a rule, satisfactory. In many instances an enormous outlay of capital is but ill compensated for by the trivial benefit gained.

Will any of your readers who are practical men inform me what would be the result of employing sea water in its natural state for ore dressing purposes, more particularly as to what the effect would be upon lead ores which are rich in silver? I am afraid the salt would affect the silver, but surely this is a point at which the skill of the chemist might step in, and a cheap yet thoroughly effective means be devised for counteracting the baneful influence of the salt. If this can be accomplished there need not be any further outcry for water from those mines which are near the seaboard. R.

MINING IN NORTH WALES, AND ITS PROSPECTS—No. II

SIR,—There are arbitrary distinctions entertained by some persons which assign to different agencies and to different modes of operation the production of metalliferous veins, and theories are enunciated concerning them which prescribe lines of distinction between the respective lodes with almost geometrical precision followed by designations as arbitrary as they are unphilosophical. In the nomenclature to which I refer we have no less than four distinct classes of productive metalliferous veins capable of bearing the same kind of ores, but differing as to their origin, capacity, and continuity. I shall not now enter into an examination of these theories, as a year or two since I did so as fully as I was able in the *Mining Journal*, and stated my own views concerning the "Origin and Formation of Metalliferous Veins." If lodes in certain localities are productive near the surface, and decline to be so in depth, there must be an adequate cause for such a decline; and those who pretend to understand the operations and laws of Nature in the mineral kingdom ought to be able by process *aposteriori* to identify causes from their effects. In the letters above referred to I affirmed that abstract principles of science do not apply, or, in other words, were not sufficiently understood so as to enable any one to determine *apriori* where lodes decline in value or where they increase in productiveness; but under what circumstances such changes occur there are frequently very many facts as landmarks to guide the miner in his conclusions regarding the future—the philosophy of induction, the science of deducing one thing or set of things from another or other things. We look at the mineralogical outline of a mining grant, or any section thereof, and if its cardinal features, lodes and cross lodes, and its various other intersections, of whatever kind, are such as meet our approval, the next step is to ascertain whether or not those favourable appearances are in any way either approximately or remotely imperilled by geological irregularities and disarrangements; and these things, whatever they may be, are judged of and determined also by analogical reasoning.

If there are found in North Wales, or at any place, conditions which are similar to those found in profitably productive districts elsewhere, and which for some sufficient reasons have come to be considered essential to their metalliferous fecundity, it is specially essential and right that the results of such developed mines or districts should be applied with whatever modifications may be deemed necessary, arising from any local peculiarity of circumstances, to such other mines or districts where similar esteemed essential features occur. I have said that abstract principles of science do not apply so as to enable the metalliferous miner to determine from superficial observations what the result of extended developments may be; but, more correctly speaking, sufficient does not appear to be known of this difficult branch of natural philosophy as to admit of the rules being framed which would be advantageously applicable, except in the most local or limited sense, and this is obvious, because there are no means of ascertaining the physical condition of the rocks but by extensive mining explorations, and all experiments of this kind are necessarily limited, be cause of the difficulty of making them, and the expense.

In considering more especially the claims of North Wales, it may be necessary to descend to details, and in doing so it is both natural and proper to illustrate, in support of an assumed position, by facts within the compass of one's own personal knowledge; and this cannot better be done in the present instance than by furnishing a brief outline of the district to which my attention has been more particularly directed, and of the mines I am engaged in developing.

The district to which my remarks will now apply is an important part of the extensive Gwydyr estate, the Welsh domain of the successor of the late Lord Willoughby, in the county of Carnarvon. The district extends from the River Conway, opposite Llanrwst to Capel Carrig, and from Bettws-y-Coed to Trefriw, embracing an area of about 40 square miles. The geology of this section of North Wales is an interesting one, yet at the same time is a somewhat complicated and perplexing field for geological investigations and research. Notwithstanding the large amount of labour and attention which have been bestowed upon it, especially by the late Sir Roderick Murchison, its geological outline can scarcely yet be said to be accurately drawn. Two great systems were defined by that eminent explorer of Nature—"the Silurian and Cambrian"—as prevailing in this part of the country. But observations of a more minute and localised character go to show that other systems are intimately associated with the former. In the Isle of Anglesey both the granite and carboniferous appear; and again at Trefriw, a village on the eastern border of Carnarvonshire, on the banks of the Conway, granite occurs in dykes, intersecting the finest kind of clay roofing slate; whilst intermediate to that and Anglesey the Devonian, with its characteristic grauwacke, is well developed.

The frequent occurrence of trap rocks, which constitute the ... of so many of the mountains of North Wales, and the abrupt ... with which they occur, give rise to a great deal of embarrassment to those who wish to educe order out of confusion, and to reconcile the operations of nature here with geological theories respecting the order of rock formation from observations made elsewhere. But it should be remembered that geologists are not yet agreed amongst themselves what is the original order, position, and age of position of the underlying and overlying igneous rocks. It is a matter of opinion, and one involving very much doubt, as to whether or not granite is the fundamental, or most deeply formed, of all

those rocks with which the miner and geologist are acquainted. For a long time it was accepted as an established fact that granite underlies all the other rocks which form the crust of the earth; but recently different views appear to be entertained, and greenstone, porphory, and basalt are now considered by some to underlie the granite, or, in other words, to have been formed from greater depths than that previously esteemed fundamental rock; whilst from under these again, as a matter of course, the volcanic rocks proceed. This is not, so far as I can judge, an improbable theory, especially with regard to basalt, and some of the greenstone porphories which occur in North Wales, which certainly exhibit evidences of having been subjected to a much more intense heat than granite has been. But, be this as it may, and we adhere to the popular theory and order of rock formation—that is, that granite is the fundamental rock in the structure of the earth's crust—then nothing prejudicial to mining in North Wales can be established. ROBT. KNAPP.

Llanrwst, Aug. 5.

MINING IN MONTGOMERYSHIRE.

SIR,—Your correspondents, "Pedestrian" and "Cymro," are doing a service to mining by drawing the attention of the public to this district; it is a singular thing that, notwithstanding the wide-spread fame of the Van and scarcely less so of the Dyliffe Mines, so little capital should have been expended in this district (if I except the immediate neighbourhood of the former mine), and I attribute this mainly to the great want of good roads. There is no doubt but the large extent of land of which Dyliffe, Cae Conroy, Van, and Esgair-hir may be said to form the corners is teeming with mineral wealth, but it may with equal truth be said there is not a good road in the whole district. I do not think the landlords as a rule show a disposition to encourage mining, but to this rule I must except Sir Watkin Wynn. Under the new arrangements which have been made for the management of his mineral rights the most liberal inducements are being held out, and his local mineral agent is most indefatigable. I have met him at all sorts of places, in all sorts of weather; and I cannot but think that if the matter was laid before Sir Watkin he would not only assist in opening up the country but would bring his great influence to bear in making the parish authorities keep those roads which do exist in a proper state of repair, most if not all of them being in a most disgraceful state, as your correspondent, "Pedestrian," can doubtless testify. This is the time of the year when repairs can be made, and should be made; and I trust those interested in mining will take the matter up, as if there is anything like a severe winter this year many of the roads will become impassable.

I notice that "Pedestrian" and "Cymro" have not quite settled their differences as to the Rhoswyddol dressing machinery. As both your correspondents doubtless have the interests of mining at heart, is it worth while to differ as to the treatment of the mineral when found; is it not better to encourage the search for it? Surely every mine has a right to be as elaborate as they choose over their dressing-floors so long as they have the mineral to dress; it is inducing the public to expend money in worthless mines that is the great evil, and I do not think this evil can be laid to the charge of Rhoswyddol. It is not as if it were a mine by itself; it is in a district which for many years has been found rich in minerals, and all around mining operations are being carried on, but more capital is required in the district. Doubtless the renovation of Dyliffe, and the success they are now reaping—judging by last week's setting-list, where several of the bargains are valued at from 50*l.* to 70*l.* per fathom, and where no doubt 200 or 300 tons a month will soon be selling—will open the eyes and pockets of the public a little. It seems a pity that 5 or 6 millions of money should be drained out of the country for an unsettled state like Spain, when such a sum expended on the unworked mines in this country would bring a far more secure, if not more lucrative, return. Take for instance the large tract of land extending from Dyliffe in the east to Esgair-hir in the west, and containing Dyfngwm (which has returned thousands), Cafartha, Hallyn. Moel-ffadian, Buguelan, Rhos-y-Garreg, Cwm-byr, Talant-drain Hyddjen, Bwlch Hyddjen, and Llech-wedd-mawr, on all which promising lodes have been opened up, and in many instances valuable deposits of ore exposed. I have no hesitation in saying that if there were a good road through this district everyone of these would be a paying mine in a very short time. Your correspondent, "Pedestrian," has given a very fair sketch of the prospects here; it is only to be regretted he was not able to go more fully into it. I have been over most of the ground myself, and can testify to the veracity of his statements; and I can only trust that he will be enabled again to go over the district. I trust I have not trespassed too far on your valuable space. "ICH DIEN."

MINING IN MONTGOMERYSHIRE.

SIR,—After the lapse of so many weeks I was certainly rather surprised to see Mr. Green's letter in the Supplement to last week's Journal. Having taken the matter up with "Cymro," I should not have noticed his effusion but for the insinuations contained, and attributing those to a splenic attack, I will only make a few remarks upon his letter. First, then, let me inform Mr. Green that I had permission to visit the Rhoswyddol Mine, and that the said visit was neither a nocturnal nor a surreptitious one. Second, that Mr. Green himself admits the mine to have been "rich," by avowing that the lode at times produced as much as 8 tons per fathom. Perhaps 8 tons per fathom does not seem much to the eye of an engineer; but I certainly consider it to be a good course of ore that will produce 120*l.* worth of ore to 1 fm. of ground, which at Rhoswyddol ought to be extracted for about 4*l.*; thus, after allowing 16*l.* for dressing and other contingent expenses, there would be a clear profit of 100*l.* per fathom. I call that rich, and I believe that all practical miners will concur with me. As to "who told me," that is not Mr. Green's business to enquire.

Mr. Green's remarks respecting the former shareholders having received only 2s. 6d. dividend has nothing to do with the point at issue, therefore it need not be commented upon. "There was no elaborate patents there then," we know, but with all they were able to dress as much as 80 tons of lead per month, whereas with the patents their maximum figure has only been 40, and to accomplish this they had to work night and day. As to the saving of "two-thirds" in the dressing costs, perhaps Mr. Green will enlighten us as to the actual cost per ton paid at Rhoswyddol for dressing, also the sum total paid for engineers, fitters, &c., annually for refixing and renovating the machines, &c. We may then compare their real worth with the old-fashioned machinery, and judge accordingly; also will he explain how it is that the lead ore which is sold from the neighbouring mines—Dolan, Cae Conroy, and Llanerchyrawr, which are on the same lodes—realise an average of 20s. to 30s. a ton more than the Rhoswyddol ore. Has this anything to do with the dressing? As to the ore that would otherwise go down the river, I believe, Sir, that "Where ignorance is bliss, 'tis folly to be wise;" therefore, the least said about that the better, for fear the boot might get on the wrong leg, and Rhoswyddol has already enough to contend with.

And now, Sir, to facts and figures. Therefore, I will ask Mr. Green if it is a fact that Rhoswyddol has in one year sold about 5500*l.* worth of lead ore? and that during the last three years it has not sold ore to that amount? And is it a fact that their "elaborate dressing floors" has not yet dressed ore enough to pay for its erection and subsequent renovations and remodellings? And is it a fact that the only stope they have of any value in the mine is at present several yards before the end of the level, and is being worked by a series of rises? If the above are anything like correct, they substantiate what I said in my second letter. I might go on *ad infinitum* to comment on Mr. Green's letter, but believe that sufficient has been said to prove that my object is not to lead the "uninitiated astray;" and that my remarks, brief as they are, are neither "superstitious fancies" nor "random guesses," and before terminating I would ask Mr. Green not to be too premature in his conclusions as to my motive in writing the series of letters on Mining in Montgomeryshire, and not to measure others according to his own yard about little "bals."

And now, Sir, just a word respecting the resident management. I quite agree with Mr. Green that, to the extent of their tether, everything has been done that possibly could, and also I believe Captain Roberts to be a thoroughly practical miner; and, moreover, I will say that a more courteous and intelligent agent I did not meet in the county of Montgomery.—*August 4.* PEDESTRIAN.

MINING IN MONTGOMERYSHIRE.

SIR,—I must plead guilty to the soft impeachment made by your correspondent, "Pedestrian," in last week's Journal, respecting my endeavours to have your readers believe that the patent self-acting dressing machinery is the greatest boon ever bestowed on the mining portion of humanity; and, whatever he may assert to the contrary, it is a stubborn fact. I shall not follow in the wake of your correspondent, and fill your columns with mere assertions. I have a far higher estimate of the intelligence of your readers than to call their attention to, or to believe in, matters they have had no chance of forming an opinion upon. "Seeing is believing," and until "Pedestrian" can bring something better to bear upon the subject than heaping one vague assertion on another, I do not think his remarks concerning the patent self-acting dressing machinery will have the effect he so much desires upon the mining community.

There is decidedly one stubborn fact in his last letter, worthy of being placed before your readers a second time—that among the depository of new inventions on the Rhoswyddol dressing-floors he, with that keen perception which he would have your readers believe he possesses, made a grand discovery, and found there (take particular notice, Mr. Editor, and also your numerous readers) a cerwyn lue and gogrfach. And bear in mind, gentle reader, that he did find them, and as soon as he could he sounds his trumpet to let all know of that very important discovery, which he thinks no one but himself had wit enough to make. Truthfulness is, indeed, a noble virtue, but what shall we think of the man who witholds a part of it for the sake of misleading? And your correspondent should certainly have informed your readers what part those grand discoveries of his are taking in the dressing of the Rhoswyddol ore. Allow me, Sir, to supply the deficiency, and give your readers the whole truth concerning those ancient implements of slavery—that there has not been a single ounce of the Rhoswyddol ore cleaned by the lue or gogrfach for many months, or years for what I know; and that all the produce of the mine is made marketable by the new inventions they have there, and those old instruments are preserved only as a remnant of the ancient system of dressing, to which "Pedestrian" clings with such a cat-like tenacity. There is nothing more in his letter worthy of my descending to notice, only that I am not in a position to answer his queries which are to terminate this controversy, but I daresay he will be able to get the required information from Mr. Green; but for my life I cannot perceive what relation can there exist between those questions and his blind assertions concerning the machinery, only that he, evidently like a man on the point of drowning, sees nothing too small to cling to to save his life.

August 5. CYMRO.

IMPROVEMENTS IN LEAD DRESSING—RHOSWYDDOL MINE.

SIR,—Having had considerable experience in the art of dressing lead and other ores by the lately introduced and improved automatic system, I think I am entitled to say a few words on the subject, in common with the many who have recently kept it somewhat prominently before the notice of the public in the columns of your valuable Journal. I have likewise, on numerous occasions, had the pleasure of visiting the Rhoswyddol Mine, and having access to the accounts and history of the mine, where the system in its entirety can be seen at work by whomsoever wishes to acquaint himself with the mode of its operation and results, I am thereby enabled to tender a few facts concerning the same, which it has now become sufficiently evident "Pedestrian" has not the means of acquiring. While I feel grateful that he has at length put his argument into tangible form, I regret that he has permitted himself to advance statements in so heedless a manner respecting the above mine and its machinery as he has lately done. But, without further trespassing on your valuable space, by way of introduction I purpose taking his questions in order, and answering them in detail.

First, as regards the number of times the Rhoswyddol "dressing machinery has been renovated and remodelled," would "Pedestrian" be surprised to hear that they have at no time undergone that process since their erection at that mine. True, the machines were not at first properly placed in relation to the crusher, which, through the erroneous direction of the resident superintending mechanic, was placed 18 inches lower than was represented by the drawings sent from the engineer's office, consequently it was found necessary to remove the machines from their first position, to gain the requisite "run;" but this is neither "renovating" nor "remodelling." What can "Pedestrian's" object be in making insinuations that are directly false? is a query we give him in exchange for that we now dispose of. He also asks your readers, Mr. Editor, to believe he actually saw the "lue and gogrfach within that repository of new inventions (?), the Rhoswyddol dressing-floors." We do not doubt this, nor do we ask your readers to believe the contrary, for it should not be supposed that when we had no further need of their use we would childishly commit them to the flames, or wantonly toss them into the river, seeing they may yet serve a purpose in the British Museum—to be exhibited as relics of a byegone age in mining annals, for time dissipates even prejudice, and the patent self-acting machines must and will, by the sheer force of their own merits, come to be universally adopted where a saving of cost and mineral are objects of desire. For any other purpose besides that above mentioned the "lue and gogrfach" are henceforth virtually consigned to deserved limbo. Moreover, there is at present but one person at Rhoswyddol who has the remotest idea how to use those antiquated adjuncts of a lead dressing-floors, and he, who undoubtedly knows what "Pedestrian" has yet to learn, or once learnt has hopelessly forgotten—something of the immutable scientific principles recognised by, and entirely observed in, the construction and *modus operandi* of the patent machines—has utterly condemned and left them, even without a parting tear of regret, to those of a class (who unfortunately have troubled all ages) whose unfounded prejudice in favour of "all things as they are and as we found them" lead them to condemn without investigation, and point the finger of doubt and ridicule at all great improvements in art or discoveries in science, simply because such improvements are modern, and such discoveries new. Numerous examples of the truth of this proposition must be fresh in the memory of the most superficial student of history, and repeated illustrations of the eyeless bigotry so woefully entangled in old-fangled notions constantly recur, of which "Pedestrian" is, perhaps, one of the latest—to his comfort, we say probably not the last.

Then, again, as to the grand question—"Has Rhoswyddol during the last three years sold so much lead ore as it did a few years ago in one year?" We unhesitatingly answer—No; but we should like to know how "Pedestrian" understands the patent machines to have affected the nature or value of the lodes? This is certainly more than ever has been claimed for them. But *we* can supply him with some important facts, which will perhaps astonish him. Rhoswyddol undoubtedly at one period of its "strange eventful history" returned great quantities of lead ore to market; but, we ask, with what result? We offer "Pedestrian" the information he so sorely needs. It was so heavily burdened with the enormous cost of dressing (so called), that despite the large returns for some time regularly kept up, not a single dividend was ever declared worthy of being dignified by the name. The average value of the lodes was then something over 4 tons to the fathom. I recollect some years ago, during a conversation with my father, who professionally visited the mine some time before, I was told that he then saw an underhand stope in the western part of the property (Bwlchcoch) where the lode produced fully 8 tons to the fathom, and notwithstanding that unchallengeable fact no profits were made. He, moreover, added that he felt convinced at the time (though that was by no means the only rich stope he saw in the mine) that the almost unintelligible and bungling operations at surface smothered every prospect of dividends. How does "Pedestrian" account for that melancholy state of affairs?

But a "change has come over the spirit of the scene," and though we do not pretend that we have anywhere a stope or single point throughout the mine worth 2 tons to the fathom, we do say, and that emphatically, we have discovered with the present appliances for transit and the treatment of the orestuff, everything over 10 cwts. to the fathom is profit. This is not a random assertion but an incontrovertible fact, and though but little more than 30 per cent. of the former returns are now made, with a much larger proportion of miners opening and taking away the ore ground, still this is done at a small monthly profit. Then question the first must necessarily present itself to "Pedestrian's" mind—What has conduced to such a result? Question the second we pray him to answer—"Is this saving the mine or proving the death of it?" If the improved or "elaborate" surface appliances have not proved to Rhoswyddol at least "the greatest boon it can boast of," "Pedestrian" will oblige us by telling us what has been. We pause for a reply. But if he wants further proofs of the infinite superiority of these machines over the old and expensive mode of dressing, we point him to the adjoining county of Cardiganshire, where if he chooses he may see them at work at the celebrated old mine Great Darren, also at Gertrude, near Devil's Bridge, both of which mines are within a few hours ride of his present whereabouts, and he may ask those connected with these mines, as well as numerous others in the North of England, whether they prove saving or "fatal." Unless he takes some such steps shortly I shall think "Pedestrian" does not consider it worth his while to ascertain the truth, but contents himself in writing statements without any particular regard thereto.

Should the "misguided" gentlemen or any of his misled followers choose, however, to avail themselves of the privilege offered them, every facility will be given them to satisfy themselves as to the accury of the foregoing statements. Since he appears to be at present in the immediate neighbourhood, surely he cannot consider it too much trouble, or as detracting from his dignity, to pay us an open, frank, and neighbourly (no honest purpose can be served by a clandestine) visit; then he may examine things to his heart's content, and judge for himself, while he would meet with every possible courtesy and respect, for we are actuated by no other desire than that of setting him right. Should he, however, Indian-like, prefer remaining in the jungle to pillage and plunder under cover rather than coming out in the open, we condemn such conduct as ungentlemanly in the extreme, and advise him either to discontinue his attacks until he learns the truth, or affix his real name to his unwarrantable statements, that the readers of the Journal may take his words at their proper value. We purpose, with your kind permission, Mr. Editor, giving him in a future issue of the Journal a tabulated comparison of the cost of dressing 1, 10, or 20 tons of lead ore by the old and new systems, with possibly some remarks on another subject.—*Aberystwith, Aug. 4.* S. Y. DUNN.

MINING, AND MINING FINANCE.

SIR,—In the Supplement to last week's Journal you gave a most interesting report of the Institution of Mechanical Engineers' meeting, which was this year held, by invitation of the Royal Cornwall Polytechnic Society, in the County of Cornwall. In the proceedings, among other matters, we learn that Mr. Thomas Bolitho stated that 40,000*l.* worth of tin is annually sent to sea through the Red River, while, in his opinion, the remedy lay in the use of "blankets" to intercept the atoms of tin suspended in the outflowing water. This may be true, but "pity 'tis, 'tis true." Still we think that the "wettest blanket" that Cornish miners have to contend with is the close confederation of smelters, and their fixed determination to cripple the miners by keeping down the price of tin. Is it not monstrous that Dolcoath should have to sell over 1000 tons of black tin annually to secure a profit of 12,984*l.* only? For the last quarter 257 tons realised only 19,596*l.*, at a cost of 15,423*l.*, when for the previous three months 231 tons realised 19,613*l.* Here is a loss of 17*l.* in money and 44 tons of black tin through the depreciation in price from one quarter to another, and solely through the caprice of the smelting monopoly, and the want of an open market for the miner to realise his product. This drop has occurred in the face of growing consumption, and lessened minimum Bank rate. It is absurd for Mr. Bolitho to speak of 40 tons waste monthly in the Red River, when he, as a smelter, inflicts a greater loss on Dolcoath alone in one quarter than the river conveys to the sea. Again, the lord's dues at this mine are outrageous, being 979*l.*, or 25 per cent. of the whole gains for the past quarter. Here is a great and prosperous mine, selling at the enormous sum of 206,208*l.*, paying only 12,984*l.* yearly, or barely 6¼ per cent. (over 15 years purchase), while the landlord quietly scoops up, without trouble or risk, one full quarter part of the gains accruing to shareholders. It should, in our opinion, be a question, and an important one, too, for the adventurers to determine whether the local management is equal or not to contend with the varied interests of the landlord, merchants, and manufacturers, to say naught of the smelters. Hence, the appointment of a London committee and secretary to supervise the management would probably guard the shareholders against being taken by surprise in having an increased cost of 300*l.* a month, and a deficiency of 17*l.*, with an increased product of 44 tons of black tin during the quarter.

Tincroft sold 203 tons of black tin for the quarter, which left only 616*l.* in hand, after paying a dividend of 6000*l.* through three months cost (April, May, and June were omitted, and stand in prospective as uncharged liabilities). In fact, this company selling for 275,000*l.*, instead of having a floating cash balance of 30,000*l.* in hand, is actually 9000*l.* in debt, and compelled to sell its products monthly at whatever price the smelters choose to dole out, instead of realising its tin with advantage, and whenever the markets were favourable. We may ask your readers who ever witnessed in any other branch of enterprise in a great commercial undertaking such a dearth of "provisions" as is here displayed? The larder is not only empty, but future supplies are also mortgaged. If Mr. Bolitho's statement be correct—(*i.e.*, the fish receive 40,000*l.* annually through the flow of the Red River), then the sum wasted exceeds the aggregate "*tin*" divided and to be divided for the year 1873 by all the mines which contribute towards it. What a position this is for shareholders, and shall we add, what a reflection for managers. It is difficult for one to discover beauty in the landscape or warmth in the colour.

Again, we have another bright example of Cornish finance in Trumpet Consols. For the year 1872 dividends of 8000*l.* were declared, and the value of shares advanced to 24*l.*, 25*l.*, or 100,000*l.* for the entirety. During the current year no dividend whatever has been declared. At the recent audit the expenditure is charged up to the end of May, the tin sales credited to the close of July, and the sum of 2200*l.* added, stated to be the value of tin raised, but not dressed. This state of affairs leaves a cash balance of 176*l.* to meet June and July costs (3000*l.* or thereabouts), with future product mortgaged 2200*l.* Thus, so far as I can understand accounts, the company is at least 5200*l.* in debt at the close of July month, even should no outstanding merchants' accounts exist. While, on the contrary, they must rank in addition. It is, however, almost too indulgent to conclude that such an admirable system of finance could prove scrupulously exact in charging up every petty merchants' claim against the shareholders. The science of investment would suggest caution even now in buying shares, though the market value has fallen to 6*l.*, or (say) 24,000*l.*, against 100,000*l.* a year ago. High wages, cost of fuel and materials, have borne much, and will bear a great deal more. Still such a system of finance will perplex a "cute" accountant, equally with Tichborne's case, the Attorney-General, and Dr. Kenealy.

We may surely look for a revival of business in the autumn of the present year. It is difficult to predict with the reduced minimum Bank rate, with its ever increasing balance of bullion, what particular channel a too distrustful public will direct their capital into, still it is evident that Cornish mining will not prove a choice, or even an acceptable, investment while involved in such mystery—*i.e.*, uncertainty as to the present, and utter confusion in respect to the future. The science of investment to be of any practical use must, through study, become searching, and when so applied earnest and grasping in its scope and application. Yet, we may ask, what research and penetration could have foreshadowed the future at the close of last year of Dolcoath, Tincroft, and Trumpet Consols?

In the midst of trouble spring up flowers in our path, and if we have disappointment in the great deep and old mines of Cornwall and Devon, we have hope in the future from the healthy aspect of many of our young and progressive tin mines. It is to these we

direct attention, as from such spring the great prizes which startle while they fascinate the cupidity of mankind.

32, *Fleet-street, Aug.* 6. TREDINNICK AND CO., Dealers in Stocks and Shares.

SPECULATING IN FOREIGN MINING SHARES.

SIR,—My remarks on speculating in Utah mines do not seem to have pleased your correspondent "Bona Fide," nevertheless I believe they are correct. I have before me the correspondence relating to a scheme for floating a silver mine last year. The parties in possession of the mine were a company of four, who were willing to sell it for 60,000*l.* to another lot of speculators, who were to offer the mine in England for 400,000*l.*, whereof 40,000*l.* by way of a bonus was to be paid to a gentleman in England, who, it was thought, was likely to be useful in getting up the company. In the meantime the mine was looking so much better that the original four drew back and would not take 60,000*l.*, but wanted 250,000*l.*, and I think they have it still.

I place Flagstaff in the same list, geologically, as the Emma. I believe it is simply a pocket. It may be a very large one. No one can tell. With regard to reports, the Emma Mine was investigated by as clever men as those in Flagstaff, and the reports were every whit as brilliant, and I believe, notwithstanding all that has been said, most of them were conscientious reports. I am not one of those who think that all those connected with the sale of the Emma Mine to the present company were knaves; very far from it. I believe that they were one and all deceived. I think the Emma deposit was a most wonderful one, and that anyone going into the mine, seeing so many faces standing on splendid ore, could not do other than come away impressed with its apparent value. I am even willing to believe that Mr. Park was sincere in believing the 20*l.* shares would go to 40*l.*, and that he was sorry he sold the mine for 1,000,000*l.*, large as that sum is. The knavery, if there was any, began afterwards, when the thinning out of the material made its character apparent and the rats left the sinking ship.

Your correspondent seems to think that I will surely not have the hardihood to say that the Emma shares are too high at 60*s.* for the 20*l.* share. I am sorry to say that I do think that they are not worth 60*s.*, even supposing that another deposit of equal value to the one just exhausted were found out, and you, Mr. Editor, know my reasons.

I do not deny that I am a shareholder in the Emma—a very small one, fortunately for me. I bought at 29*l.* 10*s.* for the 20*l.* share; they rose afterwards to 33*l.* I never sold them, and I hold them still, but they are not worth 60*s.* I have carefully gone over the whole plans and the whole subject, and am satisfied that there is a good chance of finding more ore, but even if another deposit were found of equal value to that which is worked out, the shares are not worth above 40*s.*

I repeat that, with our present knowledge of silver mining in Utah, speculating in the shares, for the reasons stated in my former letter, is pure gambling, and is not of the nature of ordinary mining at all. A MINING ENGINEER.

August 6.

THE BENSBERG MINING COMPANY.

SIR,—There are a few points in connection with the management of the affairs of this company worthy at the present time of the serious attention of the shareholders. It seems to me that the directors are deliberately disregarding the interests of those who invested their money in the property with the prospect held out to them of a large profit being made. The shareholders fully expected that by this time the company would have been able to *smelt* as well as to mine, but the directors appear to be totally oblivious of the fact that the intention of the company to smelt is indicated by its title. We were told at the last meeting that the board had the question of erecting smelting works under their serious consideration, and, to all appearance, they have it so yet. This is not as it should be. If it will not pay to smelt why do the directors not say so, and strike out smelting altogether from their programme, instead of dilly dallying with us as they are?

Another fit subject for the shareholders' consideration is the total want of anything like energy manifested in the mining department, and the miserably small output of ore we get from what on all sides is admitted to be "a splendid concern." It is true that the profits from even this small output have sufficed to pay three dividends (including the one payable next week); but it is not merely dividends we want, but large ones, as at the commencement of the company's career we were led to believe we should get. True, the mine is but young, but that has nothing whatever to do with it. Be the mine young or old, when we are told that the "stuff is there," I argue that the shareholders have a right to expect it to be mined. In conclusion, I must say that my own opinion, and the opinion of all the shareholders, of the mine itself is very good, but as it is palpably certain that some one or somebody is at fault, and wants stirring up, and as it is also equally certain that somebody does not seem inclined to stir himself up, it must force itself upon everyone's understanding that it is the shareholders' work to save the concern from apparently inevitable ruin, if the present state of things continues much longer. I may add that I write on behalf of several large-holding shareholders, resident in Liverpool.—*Liverpool, Aug.* 6. SHAREHOLDER.

BRONFLOYD MINE, AND ITS MANAGEMENT.

SIR,—In answer to a letter which appeared in last week's Journal, signed "A Shareholder," as to my management whilst at this mine, he wishes me to answer the following questions:—1. Did I not at one time dial a rise to meet No. 3 shaft, being sunk from surface, and was that shaft holed into the level he was rising from before he found out his mistake? Allow me to say I was requested by Mr. Balcombe to call in an independent man to dial the ground, and did act on his instructions, and in dialling we had to go over nearly 80 fathoms of iron rails, which had, no doubt, some attraction to the needle of the dial, and the consequence was the rise was some 3 or 4 ft. one side of the shaft; however, I am certain the greatest care was taken in the dialling, although a mistake did occur, and allow me state that I never reported that the rise met the shaft as straight as possible.—2. Did he not sink the last draft of the new engine shaft in such a manner that it was found impossible to carry the pitwork to the bottom? I will also decidedly contradict this statement. When Capt. Davis took charge of this mine, in February, 1872, the shaft was about 12 fathoms under the 84, at which depth the pitwork was fixed, and the total depth of shaft from surface is 101 fathoms; in consequence, the last 5 fathoms was sunk under the supervision of Capt. Davis, and who is responsible for this error, if such be the case.—3. Did he not work the mine as an open quarry? I do admit that the lode was stoped underhand from the 52 to the back of the 73 for about 12 fms. in length; but to keep the ground secure I left two arches standing—one under the sole of the 52, about 4 ft. in thickness; and another about 4 fms. over the 73, until such time as a stull could be put in. During the time I was at Bronfloyd there was scarcely any rest about the returns of ore; the ore was there, and it must be taken away at the least cost possible, so that large dividends might be paid to the shareholders. The ground so stoped away was done at a price from 50*s.* to 55*s.* per cubic fathom, and when I left there was not the least danger that the mine would run together, for the hanging wall on the north side of the lode was like adamant itself. I will decidedly again deny that ever Mr. Balcombe instructed me to build an arch in the 73, or anything of the kind, for he knew nothing of it before the sides of the arch were partly built up; when this arch was completed I intended to have the workings over filled with deads from the upper section of the mine, and at the same time should there be any ore standing by the sides have it stripped down.—4. Did he not represent upon his cost-sheets that the stopes were working by the fathom, whereas in reality they were working at their leisure, and paid by the day? Allow me also to deny this statement, for every man had a month's contract, and he had to work hard for the money he earned, as will be seen by the following:—We had to break and send to surface 50 tons of ore per month, besides sinking shaft and driving levels, at a cost of 250*l.* per month, which, I think, is not so bad after all. I may safely estimate the cost at the present to be over 350*l.* per month, and the returns are, no doubt, 25 tons per month, without sinking shafts or anything of the kind, with all their grand display of patent machinery, wire tramways, &c.

As for Capt. Davis's letter there is not a word of truthfulness in it; I shall treat it as worthless. As for his dresser, if he were to put a heap of leadstuff and a heap of lime before him I think he would be the best judge of the latter. I think if Capt. Davis could so manage as to draw up some of that enormous amount of ore which he states he has under the men's feet, and send it to market in order to pay the men at their proper time, so as not to allow them to surround the Queen's Hotel to annoy that praiseworthy manager.

In conclusion, allow me to remind "A Shareholder" that if the falling off in the sales of ore of late is owing to the poverty of the mine, why not be candid and acknowledge it, for truth is better than fiction? I had no wish whatever to interfere with the management of this mine after leaving it for 18 months, but seeing my name, or in other words the late agent, brought before the public, I certainly have a right to defend myself.—*Ponterwyd, Aug.* 7. THOMAS KEMP.

MINE BROKERS.

SIR,—Some persons have raised this question—"Do the brokers promote or injure the mining interest?" It may at first sight appear an anomaly to answer "They do both;" but a few remarks will, I think, make it clear that such is the case. They promote speculation by searching after, by means of advertisements and circulars, and finding men of capital, and then persuading them to invest in mines at their disposal. Mr. Tredinnick said, very truly, that "brokers are bad advisers." They may be looked upon as bad—first, because they have little personal knowledge of mining; and, second, because their self-interest naturally prompts them to recommend their own stock, whether that be good or bad. Their own stock is represented invariably as good, and if mention is made by a client of any *other* stock than theirs they say, "O, don't touch that; they are not worth having"—or words of similar import. They depreciate their neighbours' property, with a view to the disposal of their own. Your Journal is literally full of advertisements from brokers, every one, of course, having something very good to sell. That amongst the great number of such advertisers there are honest men I do not question; but that there are some of the opposite character I certainly know, from unhappy experience. Speculators had better, therefore, be cautious with which class of brokers they deal. If they were to ask me, I could recommend some honest ones. By bringing before the public such a large number of schemes with such strong recommendations from mine agents, and with promises of such high interest on the money required to develope the mines, the brokers promote mining. Many, if not most, of the mines now at work were set on through their instrumentality, and hundreds which are now idle. A few have answered well, but most of them the contrary.

The brokers injure the mining interest by inducing capitalists to invest in unproductive mines, under promises never likely to be realised; and, by charging such large premiums for the "goodwill," so to speak—that is, for the lease or licence to work granted by the landowner or his agent. The sums charged have been enormous. Five good for nothing setts in Wales, charged at 167,000*l.*; another mine (Cornwall), 50,000*l.*; and others at various prices. It is all fair enough to charge a reasonable sum for a good thing, if proved to be good; but the sums charged, in most cases, for mining setts are disgracefully enormous. Fifty years ago such proceedings were unknown. Then, no charge was made for coming in; a lease was obtained by a promoter, who invited his neighbours to join him in the "concern," as it was called, by taking a 32nd, a 64th, or a 128th share, or shares, in the company, with a view to working effectually the mine so taken, and with no idea of selling. At that time no broker existed that I knew of, and dealing in shares at all was very rare. If an adventurer could not, or would not, carry on his interest he relinquished it, or transferred it to another person by a memorandum in the cost-book. The present mode of transferring shares was then unknown. The legal mode of selling was then by assignment, the same as is now used in assigning a leasehold farm, with such a stamp as under the then scale was required to be affixed. The recent device of "notice of transfer" to the purser of the mine was a very ingenious one; but the Chancellor of the Exchequer found it out, and imposed a small tax—not objectionable in its extent, in my opinion. The brokers promote speculation in mines, but also loss to those who speculate, because their object is to sell, not to work, mines, as a rule; and because, on that account, they are not always careful to obtain eligible mineral lands to work in. They are useful men as brokers merely, but some are great violaters of the law of right.

July 28. OBSERVER.

CHANGE IN TIMES.

SIR,—Fifty years ago nearly all the working classes, and most of the small farmers (in Cornwall), and their families ate barley bread generally—wheaten bread seldom. Of fresh meat, although low in price, they could afford but little for ordinary consumption. For dinners fish and potatoes were in general use. Pilchards were very cheap, and the people would salt several hundreds of them per house for winter use. I suppose that you never heard of skilley—it is scalded milk, and that sometimes diluted with water, with bread put into it. Barley bread put into the milk, or milk and water, would sink to the bottom of the basin, and, therefore, the name "sky-blue and sinkers" was applied to the mess. Many poor persons would make that serve for dinner, as well as breakfast and supper, at the date referred to. The son of a farmer late of Breage, in this county, but now the director of coal mines in Pennsylvania, United States, in speaking of his early days, said that he had "eaten barley bread enough to sink the Great Eastern, and drunk milk enough to float her." And yet, notwithstanding hard labour, the people appeared to enjoy good health in those times.

The failure of the potatoe root in 1845 was a very serious loss to the country; but it fell most heavily on the poor, who subsisted so largely on it. Not only has the quantity of that root failed, but the quality also. Bad as the quality is the price is nearly ten times that of good potatoes in 1830. I remember the prices of sundry items of domestic use in that year, when I was a bachelor, and had a weekly account from my hostess:—

	Present.
Potatoes, per bushel of 24 gallons, 2*s.* 6*d.* to 3*s.* 6*d.*	24*s.*
Loaf sugar, 1*s.* 1*d.* per lb	5*d.*
Soft sugar, 6*d.* per lb.	3*d.* or 4*d.*
Fresh butter, 7*d.*, in summer	1*s.*
,, beef, 4½*d.*	10*d.*
,, pork, 2½*d.* to 3*d.*	7*d.*
Tea, good, 7*s.* to 12*s.*	2*s.* 6*d.* to 5*s.*, but less good.

Miners' wages at that time ranged from about 50*s.* to about 60*s.* per month. Of course, men are much better off now than they were then—because, although some things have increased in price, many others are much lower, and wages greatly advanced. Poor people are clothed much better now, but that ridiculous thing the chignon was not known then.—*Truro, July* 30. R. S.

[For remainder of Original Correspondence see to-day's Journal.]

Prevention of Colliery Accidents.

Mr. HERMON'S PRIZE ESSAYS.

MR. WILFRED CRESWICK'S FIRST PRIZE ESSAY—No. II.

Seeing that ventilation alone cannot prevent outbursting gas from charging the air in the mine with fire-damp to the firing point, the remedy must be looked for elsewhere, and I think the following suggestions, if carried out, would be effective. To prevent accidents from the gas in the roof, the overlookers, in addition to the fire triers, &c., as specified in the special rules (a printed copy of which, as used at the Sharlston Coal Company's Collieries is annexed to the essay) Nos. 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, should constantly examine the breaks in the roof with a safety-lamp, and after the first appearance of gas no naked light must ever be permitted in the air which has passed over the place where the gas has been seen, but locked safety-lamps must be used. I should recommend those known as "Stephenson's" lamps (the light being put out on the lamps being unscrewed) as being the safest. Moreover, gas having once made its appearance in the roof, if a weight comes on, the men over whom gas from this place must pass should leave the pit whether safety lamps are used or not. The barometer should be observed every morning, and the overlookers made acquainted with the relative pressures. As colliery workings get deeper they will be more liable to outbursts from the floor owing to the gas having been retained under greater pressure.

The gas under the floor (already mentioned) is the most serious enemy to contend against, so many causes of every-day occurrence tend to liberate it suddenly; and as it has been retained under pressure, it generally (when liberated) completely masters the ventilation. The only plan of effectually dealing with it is to keep it under control by liberating or tapping it; this would no doubt prove to be very expensive, and might be done either by making deep boreholes in the floor of seam D (but in this case the gas would find its way into the workings, which is very objectionable), or else, and in my opinion much the better plan, by sinking the shafts below seam D a suitable distance—say, 10 yards—and driving galleries in a coal stratum, if possible, under the seam D; these being pushed on vigorously, and the whole of the coal seam D (to be worked) undermined by the galleries which are connected with the upcast shaft, they would act as drains for the pent up gas which might otherwise burst through the floor of D.

It would seem from the foregoing remarks that when an under bed or stratum has been wrought the liability of outbursts of gas from the floor of upper workings, provided the line of least resistance is not in the direction of the upper workings, is greatly reduced, if not altogether prevented; from this it may be inferred that large outbursts of gas only take place in the lowest seam being worked, and that those seams lying above will be free from outbursts, provided the gas in the lower seam has free vent.

The gas gradually filtering into the "wastes" or other excavated portions of the mine must, and can, be removed by ventilation as it enters the workings, and it is highly important that the best ventilating apparatus is used, so as to produce the largest volume of air through the mine to overcome the resistance offered to it by friction and other causes.

It may be well to suggest here a plan of periodically clearing (to a certain extent) the workings of a mine from gas—stop up the intake airway and cause the ventilating apparatus (not ventilating furnace) to continue working, and so exhaust air and gas from the mine; much damage to the roof, &c., may or may not result from this mode of procedure. I do not pretend to recommend this plan, never having seen or heard of it before, but merely mention it here to be taken for what it is worth.

Ventilation may be produced either by cooling the downcast air or heating the upcast, or both; or it may be produced by mechanical contrivances, producing a partial vacuum at the upcast, or by forcing air into the downcast.

I do not consider that in this essay it is requisite to enter into the theories and merits or demerits of all the means of producing ventilation, but will take it as an established fact that the greatest effective or useful power, producing the most regular current of air, is obtained by exhausting it from, instead of forcing it into, the workings, and, therefore, the cooling (generally water) and forcing machines should not be used as the only motive powers for producing ventilation, but they may be used as auxiliaries to exhausters in some cases.

The furnace for producing ventilation, as arranged at present in skilfully managed fiery mines, is fixed about 70 yards from the bottom of the upcast shaft (in the same plane as the coal stratum); the heat, smoke, and products of combustion are conducted to the shaft by a drift inclined at about one in three, so that it enters the shaft about 23 yards above the coal stratum; this furnace is supplied with air direct from the downcast shaft, which is, consequently, free from an explosive mixture; the return air, or that which passes through the mine, enters the upcast shaft on a level with the coal, so that it does not come in contact with the flame from the furnace. Proper precautions are taken to guard against the seam of coal taking fire at the furnace.

The fan best adapted for exhausting air from a mine seems from experiments to be that invented by M. Guibal. It consists of a number of blades about 15 ft. long, and about 8 or 10 ft. wide, fixed on a shaft by means of struts and ties, which occupy about one-half the length of each blade, which half is purposely left open (or unlagged) for the air to enter the fan chamber—the other half, or the blade proper, is covered (or lagged), and gives motion (centrifu… to the air.

[Here follows a sketch of a Guibal fan.]

It is found to produce a greater ventilation, with a less consump… tion of coal than any other apparatus, and from its simplicity… construction is not liable to get out of order.

Perhaps a consideration of the theory of furnace ventilation, and… comparison between fan and furnace, will not now be out of plac…

[Here are two imaginary sections. Diag. 1 shows the mouth… the "upcast" higher up the hill than that of the "downcast." Di… the converse. In both cases the depth of the respective shafts, … the lengths of the connecting galleries, are assumed to be equal.]

In both diagrams D represents the downcast and U the upc… shafts, under different circumstances.

The process of furnace ventilation is this:—A furnace is place… the bottom of U, and the air heated, which causes it to expand … known ratio (1-480 part of the volume occupied at 32° Fahren… for each additional degree of heat on that scale) its weight, per u… of measure, decreases; consequently, the column of air in D produ… motion towards U. The motive-power due to the furnace is cal… lated thus:—The top of U is the datum, which may be defined… being an imaginary circle, concentric with the earth, and the pr… sure of the atmosphere at this datum over both U and D is c… sidered as equal, because the shafts are never so far apart as… allow of much, if any, difference; from the furnace, generally … bottom of U, another imaginary circle is drawn parallel with … datum, and the difference of weight, or vertical pressure of the… in U, as against the weight between the two imaginary lines s… represents the motive pressure due to the furnace.

In diagram No. 1 the air in U has a vertical column acting … it altogether at a higher elevation than the top of D, and as … naturally gets warmer than the external air as it proceeds thro… a mine, the gallery connecting U and D will act as an assisting … cast against the real downcast shaft D; consequently, all other th… being equal, more ventilation will be produced through work… on the dip of the shafts than on the rise.

In diagram No. 2, the air in U has a vertical column acting … it altogether below D; in a case of this sort the gallery would c… tain that vertical column of air, and D would only retard ventila… by adding to friction, and the air in the gallery would not b… useful in promoting ventilation as if it were external air, owing … its greater heat.

The following are particulars of observations made at an exis… colliery ventilated by a furnace, and I will compare these act… results with what would be given by theory. Both U and D … 480 feet deep and 12 feet in diameter. Average heat of air in … cast 125° Fah., in downcast 61° Fah.; volume of air passing thro… the mine 103,325 cubic feet per minute; water gauge between … bottom of U and D 0·62 inch. The difference of pressure of the … at the bottom of the two shafts is equal to a column of water re… sented by 0·62 inch.

Theoretically, I should find the volume of air passing through … mine, thus:—

Weight per cube foot in U = ·06796 lbs.
Weight per cube foot in D = ·07646 lbs.

Each of these weights, multiplied by the distance between … imaginary lines gives the respective pressures in pounds per sq… foot, thus D = 36·70, U = 32·62, and the difference is the mo… pressure per square foot, or 4·080 lbs.; this is equal to a colum… air, at 61°, of about 53·6 feet, and treating this as a vacuum, I … that the velocity the air would attain, if no resistance had to be … countered, to be given, thus:—

$$8\sqrt{53{\cdot}6} = 8 \times 7{\cdot}321 = 58{\cdot}57 \text{ feet per second.}$$

This in an upcast shaft of 12 ft. diameter would represent 39… cubic feet per minute. The actual resistance encountered by … air in the mine was shown on the water gauge to be ·62 inch … 3·22 lbs. per square foot. The actual pressure of 4·080 lbs. per sq… foot is, therefore, disposed of, thus:—

To overcome resistance in mine	3·220 lbs.	per square foot.
Ditto, ditto in U and D	·584	,, ,,
Producing motion of air	·276	,, ,,
Total	4·080	

Take the same colliery, the same course of ventilation, and the s… amount, it is evident that whatever are the means used to exh… the air the same resistance to the bottom of the upcast will en… and in the case of a fan being the motive power the friction in t… shafts—if they have an area equal to the mean area of the airwa… will be in the same proportion as their lengths are to the leng… of the airways. I will assume the airways to be nine times … length of the shafts, if so, the resistance in the shafts will be 0·32… per square foot of sectional area of shafts, and the total pres… required will be as under:—

To overcome resistance in mine	3·220 lbs.	per square foot.
Ditto ditto in U and D	·322	,, ,,
Ditto, producing motion of air	·276	,, ,,
Total	3·818	

The pressure necessary to overcome resistance in U and D is sho… to be less when ventilation is produced with fan than with f… nace. The assumption of the length of airways may add to or s… tract from this difference, but in either case the resistance will … less with a fan than with a furnace, as motive power, on account … the increased expansion and velocity of the products of combusti… arising from the furnace.

All upcast shafts should be free from falling water, and sho… have a larger available area for the passage of air than the do… casts, in proportion with the extra expansion of the air, so that … will travel at the same speed in all shafts.

Horse power, given out by the furnace, producing ventilation—

$$4{\cdot}08 \times \frac{103{,}325}{33{,}000} = 12{\cdot}77.$$

Horse power, given out by the fan, producing ventilation—

$$3{\cdot}818 \times \frac{103{,}325}{33{,}000} = 11{\cdot}95.$$

The Guibal fan utilises about 65 per cent. of the indicated hor… power of the engine driving it, therefore, in this case the engi… would exert 18·38 horse-power, which should require about 140 l… of coal per hour, whereas the furnace consumed 372 lbs. per hour.

An essay of this description is not the place to work out the reas… of this great discrepancy of fuel consumed, but still I cannot lea… the subject without expressing my conviction that it will be fou… to arise chiefly from the following two causes:—

(A.) The large quantity of heat (in the air required to be heat… for furnace ventilation) escaping from the top of the upcast wh… compared with the heat escaping from the chimney of the furna… required to produce steam, and from the steam used in the fa… engine.

(B.) Chemical combination produces heat; decomposition tak… place at the expense of heat; a good furnace of a steam-engine is … designed that more decomposed fuel chemically combines wi… oxygen than in a ventilating furnace.

The resistance encountered in the mine by the ventilating curre… is very great, and is, to an extent, preventable by paying due atte… tion to the diagrams and explanations. Another manner of reducin… this resistance is to make and maintain the airways as large as po… sible, for friction of air in mines increases with the rubbing surface… and as the square of the velocity at which it travels; therefore, … the air-ways had twice the section, the resistance from friction would … be slightly more than ¼ for the same volume. It is also important … that the air be distributed through the mine in different currents … requisite quantities, and each current, or "split," sent to ventilate … different portion, and then sent direct to the upcast shaft; thes… splits have a double effect:—

(A.) The resistance from friction is reduced, consequently mo… air can be got into the mine with the same motive power, becaus… the same quantity of air can be carried through (say) 10 airways … 1-10th the velocity required to carry it through one airway in th… same space of time; therefore, this shows the necessity of having … large shafts whilst the air travels in one stream.

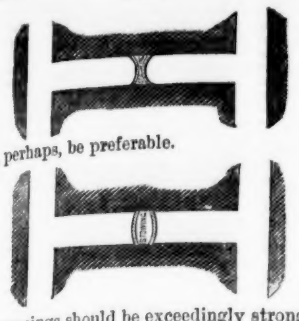
(B.) It prevents foul air poluting more than its own district … whereas if the air travelled through the mine in one current th… whole of the mine would be poluted over which this foul air passed; … it also has an obvious effect in case of an obstruction occurring in … any airway of the mine.

Whilst coal workings are subject to outburst of gas, and I think

deep workings—at and below a depth of (say) 250 yards—are bject to them (unless remedies already described are applied), it bhoves us to seek means whereby not only the risk of an explosion ay be reduced as much as possible; but also in the event of an plosion means whereby the loss of life may be reduced to the inimum.

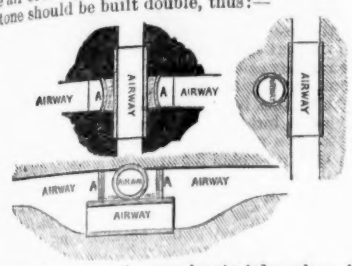
Great forethought should be exercised to have the ventilation of pit dependent on as few doors and sheets as possible; but where solutely needful they should be self-acting, and in important stations they should be doubled. All slits requiring stoppings ould have them exceedingly well built, and of this form—

PLAN.



this would, perhaps, be preferable.

Also the air-crossings should be exceedingly strong, and when of ick or stone should be built double, thus:—



I have purposely shown the crossing to take place in and under e seam, because a better foundation can thus be secured; but, of urse, if the under crossing could not be kept free from water it ould then have to be placed over the seam; it is quite evident that pillars of coal at AA had been left in the seam they would answer purpose much better than the arched stoppings.

The object of having stoppings and air-crossings built on the ble arch system is because they can then resist the blast from an plosion with much greater certainty than if a straight wall were rely supported by stopping; but, in my opinion, it would be both eaper and infinitely better if air-crossings were made of iron cast gment of a circle, and built together in position, for then one e would be sufficient to resist a blast from either side; no air-ssing should be allowed which will not fulfil this condition.

Air will travel the nearest way it can get from the downcast to e upcast shafts, and that should (even after an explosion) be eoretically) through the district it is intended to ventilate; there-re, it would be well to have the ventilation of a mine dependent nothing which can be disarranged by an explosion. I may here te that when a fan is used as the motive-power for producing ntilation there should be a duplicate of all its parts, both fan and gine, and the fan not in use should have its communication with pit cut off, so that if an explosion occurred, and broke the work-g fan, the communication between the shaft and the other fan uld be made at once; there should, also, always be kept at hand plicate pit cover. Upcast air should be conducted, so that even it reaching the surface there will be no chance of it coming in ntact with fire.

[*To be continued in next week's Mining Journal.*]

THE DONCASTER COAL FIELD, AND ITS ALLEGED CONTINUATION.

A good deal of interest is now being attached to the proposal to e for coal near to Doncaster, throughout the greater part of hich town the measures are known to exist, extending for miles the south and west, and it is believed to the east as well; indeed, e finest unworked coal field in Yorkshire commences within three four miles of Doncaster, its area being upwards of seven square iles, the thick seam varying in depth, being from 500 to 600 yards om the surface. The mineral owners include Lord Halifax, Mr. elluson, Mr. Taylor, and others, and although there is no railway ommodation within three or four miles of any part of the vast ld, yet an offer of 300*l.* an acre was recently made for several undred acres of what is known as the Barnsley coal. The great portance of having the most reliable information with regard to probable course of the coal measures from where they are now ng worked in South Yorkshire, induced an eminent geologist and ining engineer to examine the district from Wombwell to Lincoln-ire, and the report has been so far satisfactory as to leave very tle doubt but what the celebrity of Doncaster for its annual racing eeting will be eclipsed by its becoming the centre of a vast and luable coal field, finding employment for many hundreds of hands.

The following is a *resumé* of the report alluded to.

Leaving Wombwell for Doncaster, the coal measures dip at an gle of 3° for a few miles, and in passing through a cutting near to Manvers Main llery the measures are disturbed for a little distance, when the land suddenly es, and a fault brings in the Lower Red Sandstone. Continuing for a mile, some ge throws bring in the Magnesian Limestone with a very fine appearance, which be clearly seen, but the thickness cannot be less than 100 feet. A very fine ction of the same seam is also seen in passing through a cutting before reaching ncaster, where the limestone dips at an angle of 2° to the east, when a fault sets which causes it to rise to the north, but it does not continue a great distance before assumes its regular angle, and passes under Doncaster at a depth apparently of om 250 to 300 yards. It is overlaid by the Red Marl, which appears to attain a ickness of not less than 40 feet. Below Doncaster, the New Red Marl, going in e direction of Grimsby, appears to thin out very much to the east for 10 miles, en it is lost to view, and a clay soil takes its place, but it soon appears again fore arriving at the Trent, where it rises out very fast in small hills. In passing ng for a few miles further, at a large cutting the Lower Lias Shales appear, but ot of great thickness, for some distance. At a dip of 3° they pass out of sight, and re overlaid by the Oolite, which appears to come in with great thickness, the untry being level for some distance, but is soon broken, and the outcrop of iron-one appears, but is not worked. The Oolite appears to attain a great thickness re, for it extends for miles, and dips to the east, when the Wealden clay is reached. is not very thick, for the Gault of Lower Chalk, which is burnt for lime, succeeds

It also dips to the east, where all the measures appear to thin out. Judging om the strata, the indications are that after the limestone passes under Doncaster r some miles east, it will be found to thin out very fast, and that the coal mea-res will be found nearer the surface than is generally believed—say, within 00 yards; also, that they thin out too. But there is not the slightest doubt but at the coal could be easily worked, and that there is a very large coal field yet developed in that part of Yorkshire. If the coal measures continued to dip with-t any faults, slips, &c., they would be an immense depth; but as large faults set in they bring the measures up in different districts to a workable depth. It is often serted that rocks continue at a regular thickness as shown at their basset faces, t such is not the case, as all rocks which have been deposited take the shape of a dge, and it is well known and admitted that the upper measures thin out to the nt. With these facts to guide us, practical geologists and mining engineers agree w there being a large coal field extending from East Yorkshire along the valley the Trent, uniting with the East Nottinghamshire coal field, and that the mea-res will be found at a less depth than is generally anticipated. If pits are sunk a depth of 600 or 700 yards, with strong machinery and backed with English terprise, the results cannot fail to be in every way satisfactory and remunera-ve, as it is well known that coal is raised comparatively easy at a great depth, as s been proved in the Wigan district, where the vertical shafts at the Rosebridge Colliery are 815 yards deep. There is, therefore, every reason to believe that the district around Doncaster will become a most important one in connection with the raising of coal, and that the iron ores of North Lincolnshire will be smelted with fuel raised in that county, and close to where the stone is now being worked. Frodingham will then become the centre of one of the most important iron dis-tricts in the kingdom, to the great advantage of such men as Mr. Winn, who, as a lower of ore, has done more than any other person to develope the resources of the vast mineral field of Lincolnshire, which as yet is only in its early infancy.

LONDON GENERAL OMNIBUS COMPANY.—Traffic returns for the week ending Aug. 3, 11,443*l.* 10s. 5d.

Meetings of Public Companies.

LONDON AND COUNTY BANK.

The half-yearly general meeting of shareholders was held at the Cannon-street Hotel, on Thursday,—Mr. FRED. FRANCIS in the chair.

The notice convening the meeting was read by Mr. G. GOUGH (the secretary). The directors' report, which was taken as read, was as follows:—

"The directors, in presenting to the proprietors the balance-sheet of the bank for the half-year ending June 30 last, have the satisfaction to report that, after paying interest to customers and all charges, allowing for rebate, and making provision for bad and doubtful debts, the net profits amount to 109,461*l.* 9s. 5d. This sum, added to 14,936*l.* 8s. brought forward from last account, and 541*l.* 13s. 4d. reserved to meet interest accrued on new shares, produces a total of 124,939*l.* 10s. 9d. They have declared the usual dividend of 6 per cent., with a bonus of 4 per cent. for the half-year, free of income tax, being at the rate of 20 per cent. per annum, which will absorb 100,000*l.*, and leave 4750*l.* to meet the interest accrued on the new shares from the respective dates of payment to June 30 last, and 20,189*l.* 10s. 9d. to be carried forward to profit and loss new account. The shareholders having, at the meeting in August last, decided to issue the remainder of the shares created in the year 1866, the directors, in view of the contidued increase in the business of the bank, and of the desirability of preserving a proper relation between its capital and the amount of such business, will ask the shareholders to pass the resolution, of which notice has been given, authorising the creation of 15,000 additional shares, such shares to be issued at such times and on such terms as may be determined at some future annual or half-yearly meeting. The directors will further propose the second resolution contained in the notice, that the bank be registered under the 'Companies Act, 1862,' as an unlimited company; this registration, while it will not affect the principle of unlimited liability of shareholder, or involve any alteration in the Deed of Settlement of the bank, will have the effect, under the terms of the Act referred to, of limiting the duration of liability of shareholders ceasing to be such to one year, instead of to three years as at present, and will also give to the bank the advantages of a corporate body with a common seal. If these resolutions be adopted they will require to be confirmed by an extraordinary meeting, which will be called for the purpose on Thursday, 21st inst., of which due notice will be given. This extraordinary meeting will be only of a formal character, and no other business can be transacted at it. The dividend and bonus together 2*l.* per share, free of income tax, will be payable at the head office, or at any of the branches, on or after Monday the 18th inst. The directors have to remind the proprietors that the scrip certificates should be left for payment of the interest and for registration five clear days before the 19th inst."

The CHAIRMAN said—Gentlemen, the balance-sheet having been taken as read it becomes my duty, as the Chairman selected by your board of directors, to make some few observations to you upon the statements contained in it. The notice which has been read to you will, I think, suggest that my observations, and the business of the meeting, should be divided into three parts,—first, the general business, comprising the balance-sheet and the report as to the accounts; next, the resolution, of which you have all had notice, as to some prospective increase of the capital of the bank; and, third, the somewhat more formal matter of the registration of the company under the Joint Stock Companies Act of 1862. Considering the state of the weather I think you will be best pleased if I occupy your time as shortly as possible, and I will, first of all, simply remark that the general matters affecting the agriculture and commerce of the district in which our bank particularly does its business are considered by all of us to be fairly and reasonably prosperous. Some unfortunate districts I happen to know of my own knowledge will suffer from the blight of the wheat and things of that sort, but, taking the average of the district where our business is carried on, I think you may come to the conclusion, speaking generally, that there is no very great deal to find fault with. (Cheers.) The account which you have before you, as you will see, shows a somewhat large amount of profits during the half-year. The interest during the last six months has been much more than we have been accustomed to, and that, although a great part of it comes into the pockets of the customers in the shape of interest on deposits, it still makes the figure look somewhat larger. If you will look to the accounts before you, and, probably, most of you have some recollection what the amounts were this time 12 months back, for I think it better to compare the accounts of this year with those of the previous year, instead of those of the previous half year, if you will follow me for a moment you will see in almost every item that our figures have increased. The capital and reserve, of course, there is no need to refer to. Our customers' balances have increased during the last year to nearly 1,000,000*l.*—a matter which, I think, must be pleasing to every shareholder. The acceptances, which are a profitable part of our business, and in respect to which we imagine we do a safe business with very little risk—the acceptances are 640,000*l.* more than this time last year. On the other side of the accounts, you will find our investments are about 150,000*l.* more than last year. Our bills discounted are 1,250,000*l.* more—I speak in round figures. Our premises account has somewhat increased; that is almost a necessary item upon which there should be an increase as your business increases, for as the business increases the room for the clerks and the accommodation for the customers must necessarily increase too, and the expenditure to provide the requisite accommodation must also increase; and, as I said upon a former occasion, that is a matter not to be deplored, but one upon which you should be congratulated. It is somewhat of an index to the prosperity of the bank when you see the premises increase, because we never lay out any money on new premises until it is absolutely necessary. (Cheers.) There is another matter on the face of the accounts which is not so readily accessible, except from my observations, and that is with reference to the new accounts. During the last year we have opened accounts to the extent of 5600 in addition to those we had before, and our total accounts are now somewhat about 67,000, involving, of course, an enormous amount of labour. (Cheers.) You will see in the profit and loss account a matter with reference to the rebate: a very large figure, 59,000*l.*, is carried over as rebate—that is 34,000*l.* more than it was at this period of last year. The interest paid to the customers is 38,000*l.* more than at this period of last year; our expenses, chiefly in the way of salaries to clerks, have been about 9000*l.* more. Our reserve to meet interest accrued on new shares is 475*l.*, and we carry over a larger sum. Looking at all these figures together, I think you will agree with me that the account is a very satisfactory one. (Cheers.) The directors feel that we have arrived at that point when the old term bonus (which you will have seen in the accounts for many years past) should be done away with. A bonus, properly speaking, is only an occasional distribution of money, but in this bank we have now arrived at that point when it has become almost as regular as a dividend. On future occasions we propose to state the accounts somewhat differently. Without making any promise as to what the accounts will be—for that depends upon the state of trade, and a variety of matters over which we have no control—we hope upon future occasions that instead of the shareholders receiving a dividend of 6 per cent., and a bonus of 4 per cent., that you will be able to receive a dividend of 10 per cent. (Cheers.) This is a mere matter as to the statement of the accounts; but we know we are in a sufficiently strong position as not to look upon 12 per cent. as a regular distribution, and the bonus as an occasional distribution only. Looking to these figures altogether, gentlemen, I think you will come to the conclusion that the account laid before you is by no means an unsatisfactory one. You will see you carry forward the sum of rather over 20,000*l.* to the next account. Some gentlemen may think that a large figure, but looking at the fact that the capital has now increased by 200,000*l.*, and that to pay the same dividend next year you will want an increase of profit to the amount of 40,000*l.* for the whole year, we think it is necessary to act on the safe side, and carry over a respectable balance. (Loud cheers.) Having made these observations, in the ordinary course of things I should move the adoption of the report: but, to save your time, I propose to make a few observations upon the second resolution which will have to be proposed to you, as to the increase of the capital, and then as to the registration of the company; and afterwards I shall return and ask whether you approve the report. Now, the resolution, of which you have all had notice, as to the capital is—"That the capital of this company be increased by the creation of 15,000 shares of 50*l.* each, and that such shares be issued at such times and on such terms as may be determined by any future annual or half yearly general meeting of the proprietors of shares in the capital of the company." In the year 1866 it was thought fit to give the directors power, as they thought proper, with the consent of some annual or half-yearly meeting, to increase the capital of the company so as to make it somewhat commensurate with the extent of the business. The issue of shares last year exhausted that power, and no further power remains in the hands of the directors to increase, when they think it necessary, the capital of the company. The unanimous opinion of the directors is, looking at the safety of the bank, and the ordinary rules acted upon in matters of this sort, that the shareholders' capital in a concern of this kind should bear something like a fair proportion to the extent of the liabilities of the concern. We do not want to express any very positive opinion as to what the precise figure should be; as a sort of general idea, I may say it is the opinion of the directors that the shareholders' capital and the reserve fund should be something like 10 per cent. upon the amount of the liabilities. You will see by the figures I have given you that our balances have run up very rapidly. In the year 1863 our balances were 7,700,000*l.*, and our capital and reserve 1,000,000*l.*; in 1868 our balances had run up to 12,000,000*l.*, and our capital and reserve was then 1,500,000*l.* Our balances have now gone up to the extent of 17,821,000*l.*, and our capital and reserve, when they are fully paid-up—there are some few thousands not paid yet—will amount to 1,800,000*l.* So we are now only about 10 per cent. of the liabilities, besides the sum put down as acceptances, which is a liability, but against which we are amply covered; so that the time is now rapidly running on when, to keep to that safe point I have previously mentioned there should be an increase in the share capital of the proprietors. (Loud and prolonged cheers.) I think you will see by the notice that it is not intended to issue that capital at once. We only want the directors to be invested with the power of doing it when they find, from the confidence which is continually reposed in us by our customers and friends, that the business has grown to such a point that the capital, as it stands in the books, is inadequate; and we ask you, therefore, to give the directors power to issue 15,000 shares, at such times, and upon such terms, as they may hereafter think fit, with the consent of some future half-yearly or annual meeting. It cannot be done without that. That disposes, I think, of the second resolution, as far as any observations of mine are concerned for the present. The third resolution is with respect to the registration. I think you will remember on a previous occasion. I alluded to a discussion which had taken place in the papers upon an opinion which the present Lord Chancellor had given, when at the bar, as to the liability of shareholders in unlimited companies; that opinion, coming from such a source, of course was considered with anxiety by many people. I said at the time I first mooted it that I thought it was somewhat a bugbear, and I think so still; but the larger joint-stock banks in London thought it necessary to confer together as to the course to be adopted with reference to the feeling which had got abroad as to these liabilities; and the conclusion which was come to, after advising with Sir Richard Bagallay, Sir George Jessel, Mr. Cohen, and other eminent men at the bar was that the bank should be registered under the Companies Act, 1862, as a bank of unlimited liability, according to the provisions there laid down. It was never intended to interfere with the principles upon which this bank was originally established, and which I believe myself has been the main cause of its grand success—the unlimited liability of the shareholders. It is not intended in any way to interfere with that, but we propose you should pass a resolution authorising the necessary steps to be taken to register the bank as an unlimited bank under the Act of 1862, acting in conjunction with other large joint-stock banks, and under the advice of the eminent men I have referred to. The registration will have some advantages in doing away with a somewhat cumbrous mode of dealing with the property through the intervention of trustees; trustees will not be altogether unnecessary in some matters, but we shall, when we have acted on this resolution, be a corporation, and we shall take and hold property in the name of the London and County Bank, instead of three or four gentlemen who have acted as trustees to the company. That will add somewhat to the facilities with which we shall be able to transact the business of the bank. The clause in the report stating the effect of this registration states that—"It will have the effect, under the terms of the Act referred to, of limiting the duration of liability of shareholders ceasing to be such to one year, instead of to three years, as at present." That is the main object for which the registration is proposed to be carried out. I has already been done by the other principal banks to which I have referred, and I have no doubt that it will be done by you when I put the resolution. With these few observations, gentlemen, before I put the resolution formally, I will ask whether any gentleman in the room has any question to ask, and, if so, to the best of my ability I will endeavour to reply. (Loud cheers.)

Mr. CORDEROY asked whether the 15,000 shares would be issued to the shareholders or to the public?

The CHAIRMAN: I beg to state authoritatively from the chair that the shareholders will have the right to take up the shares before any outside individual.

Mr. CORDEROY asked at what price they would be issued?

The CHAIRMAN said that this matter would come fully before the shareholders at a future meeting, but the present was scarcely the time to discuss it. He added that if the busines continued to increase as at present there was a probability that the issue of the shares will take place next year.

A SHAREHOLDER said he was very pleased indeed to find that it was proposed to do away with the word bonus, and in future make the whole distribution in the form of a dividend. He had the greatest confidence that they would be able to maintain the dividend at 20 per cent., and he would even go so far as to express his hope that before long they would be able to give a bonus beyond the 20 per cent. (Cheers and laughter.)

The CHAIRMAN: I should be very glad if the hopes of our friend are carried out. They quite agree with my own views. I said before we pledge ourselves to no particular figures, but I trust they may be realised. I now beg to move that the report be received and adopted.

The resolution was seconded by Mr. W. CHAMPION JONES, and carried unanimously.

The CHAIRMAN next moved "That this company be registered as an unlimited company under the provisions of the Companies Act, 1862, and that the directors be and they are hereby authorised and required to do all acts necessary for effecting such registration."

This resolution was also seconded by Mr. JONES, and carried.

The CHAIRMAN then moved "That the capital of this company be increased by the creation of 15,000 shares of 50*l.* each, and that such shares be issued at such times and on such terms as may be determined by any future annual or half-yearly general meeting of the proprietors of shares in the capital of the company."

Mr. W. C. JONES said he had especial pleasure in seconding this resolution, because he was perfectly satisfied that it would be a first-rate thing for all the principal joint-stock banks.——This resolution was also carried.

Mr. FREED moved a cordial vote of thanks to the board of directors for their excellent management of the affairs of the company. He said he had been a proprietor over a quarter of a century, and now held ten times as many shares as at first; and, such was his confidence in the bank that he should like to double his holding.——Mr. CORDEROY seconded the resolution, which was carried.

The CHAIRMAN acknowledged the compliment. He said the directors had done the best they could for the benefit of the shareholders, and he was pleased to find that they had been successful. He mentioned that a formal meeting will be held at the offices on Aug. 21 to confirm the above resolutions.

On the motion of Mr. LEE, seconded by Mr. NORMAN, a special vote of thanks was passed to the Chairman for his able and courteous conduct in the chair, and the meeting broke up.

THE CENTRAL SWEDISH IRON AND STEEL COMPANY.

The second ordinary general meeting of shareholders was held at the City Terminus Hotel on Wednesday,

Major-Gen. Sir COLLINGWOOD DICKSON, K.C.B., in the chair.

The notice convening the meeting was read by Mr. J. J. DORMAN (the secretary). The report, having been circulated among the shareholders, was taken as read. The report says—

"It will be remembered that the prospectus estimated the profit for the first year at 9 per cent. on the capital as paid up, under the supposition that for the last three months of it the new works at Björneborg would be in operation, Prof. Forbes, in his report accompanying the prospectus having calculated the net revenue obtainable from the estates and the old works, without the aid of the contemplated new works, at 14,929*l.* The actual net profit from the estate and old works, as shown by the profit and loss account, is 15,086*l.* 19s. 7d., or about 7½ per cent. on the capital as paid up. The 9 per cent. dividend guaranteed by the vendor, under terms of the contract, has been paid to the shareholders, amounting to 18,986*l.* 10s. 8d. The net profit being, as before stated, 15,086*l.* 19s. 7d., the sum of 3899*l.* 11s. 1d. has been deducted from the 9000*l.* retained under the contract, and the balance of 5100*l.* 8s. 11d. becomes due, and will be handed over to the vendor."

The CHAIRMAN said: In moving the adoption of the report and accounts now laid before you, I should like to make a few remarks. I will not say much about the present state of our works in Sweden, as Mr. Bagnall only returned from thence on Monday last, and he will, I hope, give you the result of his personal observation, which will be much more interesting than anything I can say. I think most of the shareholders will agree with me that it is very satisfactory to see that the profit, as shown in the accounts before us, rather exceeds the amount estimated by Professor Forbes as obtainable from the estates and works taken over by the company. Indeed, if we take into consideration the charges incidental to management by a public company, having all its works abroad, which are, of course, much heavier than those allowed for in the estimate of Professor Forbes, we shall find that the excess is considerable. We hope and believe that this may be looked upon as a favourable augury for the realisation of the larger results we have calculated upon from the new works. It was thought at first that the new furnaces and Bessemer works at Björneborg might have been completed in nine months, so that the benefit of their co-operation would have been felt in the first year. Several circumstances, however, arose to disappoint this expectation. Immediately after the formation of the company the market for machinery and labour became so excited that it was impossible to get makers to take orders for execution within any reasonable time. Besides this, when we came to commence the erection of our works at Björneborg we found that instead of building one blast-furnace, as at first contemplated, it would be much better, both for efficiency and economy, to build two new furnaces at a short distance from the old works. This change in our plans caused some delay, but, on the other hand, it has enabled us to continue working the old furnace up to the present time, at a considerable profit; whereas, according to the original plan, we should have been compelled to blow it out much earlier. I need hardly say that in all these matters we acted under the valuable advice of our consulting engineer, Professor Forbes. We have not thought it wise to sell any of the produce of the new works in advance, as this would, perhaps, involve too much risk, but we hope very shortly to bring it into the market, and buyers have already come forward prepared to take a large portion of our make, in one shape or another, as soon as we feel at liberty to contract with them. In Sweden winter is the only time in which charcoal can be brought in from the forests, and, owing to the almost unexampled mildness of last winter, we at one time entertained serious apprehensions as to getting in the necessary stock for our furnaces; but we are happy to be able to say that, owing to the energy of our resident manager, the difficulty was overcome, and the whole stock housed. In this respect we have been much more fortunate than most of our neighbours. Hitherto the renewal of the forest cut down for charcoal has been left pretty much to the agency of nature, aided by a little hand-sowing; and this has been found quite sufficient, with the favourable soil, to keep up the annual supply required by the works for a great many years past; but we have now commenced re-planting upon a considerable scale, so as to provide a quicker succession, and enable us to greatly increase our annual make of charcoal without exceeding the annual growth. The old forge at Frötuna continues at work as heretofore, by which means the charcoal produced on the estate is realised to the best advantage, and brings in a good profit in the bar-iron manufacture; and when we have our hands free by the completion of the new works at Björneborg, and the markets show signs of returning to their normal condition, we hope to turn our attention to the development of this estate. We look upon the construction of the East Wermland Railway, alluded to in the report, as likely to prove of great benefit to the company, as we draw the greater part of our supply of ore from the Persberg district, which this line will connect with our works. The communication has hitherto been most tedious and complicated, and has necessitated our bringing over the ore required for one season during the summer of the preceding year, while the lakes are open, and this causes a large amount of capital to lie idle for some months. When the railway is open we shall be able to take our ore and pay for it only as we require it. The amount invested by the company is small, but there is no doubt that, like all other railways in this part of Sweden, it will yield an excellent return in the shape of dividends. He would be very glad to answer any question which might be put.

A SHAREHOLDER, referring to the paragraph in the report as to the works at Frötuna, asked whether it was the intention of the directors to finish them and begin working as soon as possible? Before he sat down he would like to congratulate the board on the condition of the works. He had occasion to visit Sweden in the autumn of last year, and he then went over both the works, and found they were progressing with great vigour. At Björneborg there were upwards of 700 men at work, and they appeared to be progressing with great rapidity. He then proceeded to Frötuna, where he found 400 men all actively employed. He was free to confess that the magnitude of the works astonished him, and if they had had to pay for all the building materials and the other necessaries, instead of having them provided from their own estates, their capital would have been utterly exhausted. But he considered that they used their own iron, wood, and labour in erecting all those vast properties. The manner in which the labour was superintended and carried out was also admirable, each set of men having a foreman to see that each man did his proper share of the work. He hoped the directors would utilise the magnificent canal which had been constructed at Frötuna, which he supposed by this time would be nearly completed.

Another SHAREHOLDER asked if the coal fields possessed by the company were now saleable at the price given for them, and to what extent did the mortgages on the property remain unpaid?——The CHAIRMAN said that the company could not get rid of the mortgages, as the property was purchased with them on it. With regard to the question relating to the coal fields, no steps had been taken, as they were awaiting the results of the sinking of shafts by their neighbours. At the same time, he would mention that no action would be taken for the sale of these properties without the sanction of the shareholders. (Hear, hear).

A SHAREHOLDER enquired as to the average price of the iron sold.

Mr. NORDENFELT said they could give no average, as the price varied so much, but the price was from 9*l.* to 12*l.* per ton. The selling price was, at the time of the taking over of the property, 9*l.* to 12*l.*; the selling price was now about 16*l.* per ton for blooms, and for bar iron as much as 19*l.* to 20*l.*, as compared to 12*l.* at the time the company was taken over. There would have been a much larger profit had it not been for contracts which had been taken over by the company from the vendor at the then market price.——Prof. FORBES said with regard to the mill at Frotuna,

the reason why he advocated it was because at the old works they could not turn out more than 3000 tons of plates, and there were also difficulties in obtaining the coal and coke necessary. He maintained that if they could obtain an efficient and regular supply of coke even at the present prices they would be warranted, considering the present high price of iron, in carrying out the works at Frötuna. It was absolutely necessary that the supply of coke should be regular and plentiful.

The CHAIRMAN, in answer to several questions, stated that the company took over a large amount of farm stock, which was in a satisfactory state; the horses, cattle, and labour were all used for the benefit of the company.

Mr. NORDENFELT, in answer to a shareholder, stated that 21,500*l.* was the value of the charcoal, which could be only carried in winter, and which would be used in the course of the following 12 months. The present value of the ore, which was carried by water until they got the railway, was 7800*l.*

The CHAIRMAN said as their were no other questions to be answered, he would call upon Mr. Bagnall who had just returned from a visit to the works.

A SHAREHOLDER asked whether there was any prospect of issuing the unallotted shares of the company?——The CHAIRMAN said that there was no necessity for issuing the other shares, and the effect of that would be to extend the profits of the Björneborg Works over a larger amount of capital, thereby reducing the dividend. (Hear, hear.)

Mr. BAGNALL said he should have much pleasure in giving them a short account of his visit to their property. The first places he went to were the works at Björneborg. Speaking as one who was accustomed to the largest ironworks in England, he said they were very striking and magnificent, as they were built on large blocks of granite; and, as far as he could judge, were thoroughly well carried out. The works had been delayed a considerable time, but he considered that they were now in a fair way of being finished by the end of September. The delays which had occurred were those which no foresight could have seen; and, in his opinion, the works had been got through with a great deal of energy. The machinery which had been erected was all of the latest, combining every improvement requiring the least possible hand labour. That was important, for although the state of labour in Sweden was not like it was in England, and the men behaved very quietly, yet they were now obtaining double the wages they had ever had before, working shorter hours, and, therefore, the only thing for them to do was to provide machinery requiring as little manual labour as possible. With regard to extensive supplies of peat which had been discovered, Mr. Nordenfelt had taken the opinion of an eminent German authority, who had estimated that there was peat enough to supply the company for half a century. With regard to the crops round Frötuna, everything was looking well, and it was quite easy to see which properties belonged to the company and those which did not. In fact, he could say that the company's property was excellently managed by Mr. Nordenfelt, who, although looking after the minor details, had a mind which grasped the importance of the great work over which he was manager. (Cheers.)

On the motion of the CHAIRMAN, seconded by Mr. BAGNALL, the resolution for the adoption of the report was carried unanimously.

The CHAIRMAN said that concluded the business of the ordinary meeting, and he now had to propose a resolution for the sub-division of each 50*l.* shares into five shares of 10*l.* each.

A short discussion ensued, after which it was decided that Mr. RICARDO should move the above resolution, which he did, it being seconded by Mr. BURNAND, and carried.

On the motion of the CHAIRMAN, seconded by a SHAREHOLDER, 75 guineas was voted to Messrs. Robert Fletcher and Co. for their arduous duties in auditing the accounts, and those gentlemen were then elected as auditors for the ensuing year.

A resolution for expunging Article 131 of the Articles of Association, in compliance with the wish of the Stock Exchange Committee, was agreed to.

The proceedings closed with a vote of thanks to the Chairman and directors.

FALCON CLIFF MINING COMPANY.

The annual general meeting of shareholders was held at Liverpool, on July 31, Mr. W. R. CRITCHLEY in the chair.

Mr. W. C. BEW (the secretary) read the notice convening the meeting, and the reports and accounts were submitted.

The CHAIRMAN, in moving the reception and adoption of the reports and accounts, stated that the appearance of the mine was highly promising, and a great deal of valuable work had been done. Dr. R. F. Ainsworth and Mr. E. Buckley had visited the mine, and formed a high opinion of its capabilities.

Dr. AINSWORTH considered success was only a question of a short time. He had had a long conversation as to the prospects of Falcon Cliff with Capt. Kitto, who expressed his perfect confidence in the future success of their operations, and gave such data for his belief as confirmed his own good opinion of the mine.

Mr. E. BUCKLEY explained that Capt. Kitto was manager of Foxdale and a shareholder in Falcon Cliff. He (Mr. Buckley), like others, had been somewhat disappointed at not ere this having some profitable result of their enterprise, but he believed everything was being done to develope the resources of the mine.

Mr. F. J. EATON had previously pronounced and thought the Falcon Cliff Mine a myth, but had come back from his visit thoroughly satisfied. He believed they would be able to make the concern one of the best in the Isle of Man.

The SECRETARY, in reply to Capt. Pilkington, stated that, of the 21*l.* due for calls unpaid, 10*l.* had been paid that morning, and there was no prospect of loss on the remainder.

Upon the proposition of Mr. BIRD, seconded by Dr. LUPTON, Mr. F. J. Eaton was elected a director in the place of Mr. J. H. Warhurst, resigned; and Messrs. Blease were re-elected directors. The sum of 100 guineas was voted to the directors for their services during the past year. It was decided not to make public the condition and progress of the mine.——The proceedings terminated with the usual complimentary votes.

GLAN SEVERN LEAD MINING COMPANY.

An ordinary general meeting of shareholders was held at the offices of the company, Palmerston-buildings, on Tuesday, Mr. THOMAS THOMPSON, Jun., in the chair.

The notice convening the meeting having been read, the directors' and managers' reports were submitted:—

DIRECTORS' REPORT.

The directors have great pleasure in referring you to the very satisfactory and encouraging report of Capt. Kitto on the work done, and the general appearance of the lodes, at the mine. The similarity of the ore to that raised from the Old Pant Mawr Mine, and the splendid stones of ore sent to us by Capt. Kitto, leave no room for doubt as to the great future value of our property. Probably, never in the whole history of lead mining have better stones of ore than those sent for your inspection been broken from a mine so little developed, and while carefully avoiding any expression which might be construed into an endeavour to create an exaggerated idea of the value of your mine, the directors cannot refrain from saying that, in their opinion, no body of shareholders ever had better reason to be pleased and satisfied with the way in which their property had improved. Capt. Kitto's report goes so fully into detail, and puts you so thoroughly into possession of all the information concerning the property, that your directors have nothing to add beyond a hearty congratulation on the promising condition of the company and the expression of a confident hope and belief that early and good profits will be realised and available for dividends.

MANAGER'S REPORT.

In handing you my report for the first ordinary general meeting I have much pleasure in being able to inform you that the prospects of the mine have continued steadily to improve since we first commenced operations, and that they were never so encouraging as at the present moment, or so likely to be productive of early and profitable results. We have lately broken some splendid orestuff from the level which is being driven on No. 1, or what is still better known to us as the Cwmystwith lode, and only yesterday, while I was at the mine, I saw some beautiful lumps of solid ore taken out from this lode near the bottom of the level, varying from 5 to 40 lbs. in weight, and this appears to be without doubt the top of a fine bunch of ore; and being only 5 or 6 fms. from the surface will undoubtedly improve, and that rapidly, as it goes down. The lode altogether is about 12 ft. wide, which presents the most kindly appearance, and the ore is in every respect precisely similar to that formerly raised from the Old Pant Mawr Mine, which it will be remembered adjoins our property, and was for many years very productive and profitable. The driving on No. 2, or what we believe to be the Pant Mawr lode, referred to above, has not so far been attended with such good results, but I am pleased to say that there has been during the last few days a decided change for the better. The general character of the lode has become much more highly mineralised, and I now entertain very sanguine hopes that it will ere long prove as productive as No. 1: in fact, I have never before seen it look half so promising as it does at the present time, and I shall be much disappointed if we do not soon get into ore-bearing ground. This lode is about 3 ft. wide, and since we started we have driven on its course about 20 fathoms. Notwithstanding the favourable prospects we have in the adit level, and that the adjoining mine, Pant Mawr, yielded large quantities of ore still higher up the hill on the opposite side of the river, yet I consider it desirable to prosecute the deeper development of this mine at the earliest opportunity. With a view to this, I am making arrangements for erecting a water-wheel and other appliances for pumping the water, in order that we may prove the lodes further down, where, judging from the fact of the best ore by far being now found in the bottom of the present level, I have not the slightest doubt that we shall find them much more productive, and yielding ore in paying quantities. I expect to have the pumping machinery fixed and the sinking commenced on No. 1 lode in about two months from this date. I may say, in conclusion, that I am exceedingly well pleased with our present prospects, and that at the commencement of operations I did not anticipate finding such large and rich pieces of lead ore so near the surface, or such favourable indications as will, in my opinion, warrant the expectation of early and profitable results.—JOHN KITTO.

The CHAIRMAN said that this meeting merely being called in order to comply with the Companies Act, he really had no business beyond proposing the adoption of the reports to place before the shareholders. When the company commenced operations very little work had been done, but the lodes looked very promising. A little ore was to be seen in the end driving on the Cwmystwith lode, but this was in the form of ribs about ¾ to 1 in. wide, though so small as to partake almost of the nature of stones of lead ore. The lode had, however, been improving with every foot driven upon it, and none could now look more promising for a great and rich mine at an early date than this when he last visited the property. He then called attention to the magnificent character of the stones of lead ore on the table, and which had only been received from the mine a few days prior to the meeting. In the sump sunk at the mouth of the level, on the Cwmystwith lode, there was nice ore, and he (the Chairman) was of opinion that that would ultimately be found to communicate with the ore now in end of the level, and would prove to be a great bunch. Considering the shallow depth of the level at the present moment he (the Chairman) was quite surprised to hear of the great improvements which had been made. By driving 100 fathoms, a height of 100 fathoms would be gained, but for the distance of 15 fathoms or 20 fathoms further the ground would be found very flat, and very little would be gained, though the rise of the hill afterwards was very abrupt. He then called attention to the following paragraph which appeared in a letter addressed by a gentleman subscribing himself as "Pedestrian" to the Editor of the *Mining Journal*, and published in that paper of Aug. 2. He thought the letter was the more satisfactory that the writer was entirely unknown to himself and everyone connected with the mine, and that it was at least disinterested. "'Coming events cast their shadows before them.'—Such was my impression on viewing the general activity prevailing at the Glan Severn Mine, which has just been started near to the Old Pant Mawr, and by the side of the turnpike that leads from Llanidloes to Aberystwith. I remember passing this way last summer, and visiting the mine when a very insignificant concern, but on our present visit things were materially altered. A nice bridge had been built over the River Wye, by which we were enabled to cross without having recourse to the primitive stepping stones—not a very pleasant job, especially when there happen to be a little freshes in the river, as there were at the time of our last visit, wet feet being the consequence, which gave me a reminiscence of my first visit. Good buildings have also been erected, but these we pass, our object being to see the mine, where we were soon satisfied with what we saw, and although the external had improved so much since our last visit the internal was no ways behind. The appearance of the lode in each level had greatly improved, from each of which quantities of lead ore had been broken. If this mine continues to improve for the next as it has for the last 12 months it will rank second to no young mine in the Principality." Arrangements were now being made for the sinking of the sump and making it a permanent shaft for working the mine in depth, and arrangements for the making of a water-wheel were now being made. The quantity of water was practically unlimited, and altogether the facilities for working could not be surpassed. He concluded by congratulating the shareholders on the great improvement which had already taken p'ace, and which there was every appearance of being continued. Taking into consideration all the natural advantages of the sett, and the position of the property (between two great mines) together with the great improvements which had taken place, he thought there were few companies which could boast of a better prospect of success.

A SHAREHOLDER asked how far the Cwmystwith and Pant Mawr Mines were from the Glan Severn, and what returns they had yielded?

The CHAIRMAN replied that the works of the Cwmystwith Mine were about 3 or 4 miles from those of Glan Severn, and that the former had yielded enormous profits, one man, he believed, having realised as much as a quarter of a million. Altogether he thought it impossible that the Cwmystwith could have raised ore to the value of less than a million and a quarter sterling. The Pant Mawr sett adjoined the Glan Severn, and the works were only a few hundred yards distant. He could not say what profits the Pant Mawr had made, but had always heard it spoken of as one of the richest mines in Wales.

The proceedings then terminated with the usual vote of thanks to the Chairman and directors.

TANKERVILLE MINING COMPANY.

The annual general meeting of shareholders was held on the mine, on Wednesday,—Mr. WILLIAM GREAME in the chair.

The LONDON MANAGER read the notice convening the meeting.

The report of the directors was read, as follows:—

1. The balance-sheet for 12 months having been circulated among the shareholders, your directors need only draw your attention to the fact that a further sum of 14,400*l.* has been divided in that period, making a total division of profit since the commencement of 37,200*l.* The quantity of ore sold in the year was 1812 tons for 27,300*l.*, or an average of 15*l.* 1s. 2d. per ton, against 2026 for 25,600*l.*, or an average of 12*l.* 12s. 9d. per ton in the previous year, showing a satisfactory increase in the value of the produce.

2. Since the accounts were closed the credit balance, after paying June costs (paid 2nd inst.), and including the sale of 50 tons of ore this week, has increased to 2500*l.* It may here be remarked that besides this there is a balance of nearly 2000*l.* of capital account which has been charged to revenue.

3. By a circular which your directors issued on May 12 they explained the importance of temporarily suspending the raising of ore through the new engine-shaft until the latter was in complete working order, and this, of course, interfered for a time with the profits realised. It will be seen from Capt. Waters's report, to be read to you to-day, that this work is completed, and that he promises a return of 150 tons next month, with every prospect of gradually increasing it. Your directors, therefore, confidently hope to be soon in a position to declare another dividend.

4. Capt. Waters's report on the mine will be found highly satisfactory. He states that there cannot be two opinions as to the permanent character of the property, or respecting the high amount of interest the shareholders will receive on their investment, reiterating his original statement that Tankerville will be a great and profitable mine during our lifetime.

5. In accordance with the Articles, one of your directors, Peter Watson, Esq., retires by rotation, and, being eligible, he offers himself for re-election. The auditors, also retiring, offer themselves for re-election.

The report of the manager was read, as follows:—

Aug. 6.—We meet you to-day, for the third time on the mine, to render an account of our stewardship, and to submit our annual report to the meeting here assembled. On previous occasions you were told that great courses of ore existed here, that the lodes were strong and many, that the geological and other conditions under which the mine was being developed were such as to warrant the expectation of very considerable profit to the company in the present as well as in the future. After another year's experience, and having minutely considered every point and feature of the property—the main lode and side lodes, from adit down to the 140, which is the bottom level—we reiterate the original statement, and tell you in 1873 that Tankerville will be a great and profitable mine during our lifetime. The results already met with, and the sales of lead ore from April 14, 1870, to July 26, 1873, being 5790 tons 12 cwts., amounting to 78,057*l.* 16s., from the great lode alone, are, we think, a proof that rich courses of ore did exist in times past; and we think, too, that the runs of ore now existing on the said lode, and laid bare to the view of those gentlemen who have inspected the mine this morning, are sufficient to convince anybody that in depth and length on this, and side ways on the other lodes, the mine is only yet in its infancy. Having digested the foregoing remarks, you will now be ready to hear our report on the mine as it is, and what it is to be, and receive an idea or two as to the interest you are likely to get on your several investments, questions which I shall proceed with in the usual way.—The Mine at Surface: Everything in the shape of good and powerful machinery for putting the mine as deep as we shall be able to go in our time is up, and at work, as you have seen, and the machine-jiggers, with propeller and other buddles, are also on the mine, and most of them in splendid working order, and equal to the requirements for dressing 500 tons a month now. The general arrangements throughout this department can be seen and understood from this board-room, therefore I need not comment further on them.—The Mine Underground: Watson's shaft is now made complete for winding out of the bottom of the mine, and is so situate that it will eventually command the drainage of cross-cuts to, and yield of stuff from, the whole of the lodes. We shall proceed immediately with the fixing of the pitwork in the said shaft, and can see our way clear to promise that this important work will be accomplished, and cross-cuts driven, and two, if not more, of the side lodes intersected, in four months from now. The sinking of the above-mentioned shaft 170 fms. deep, in hard ground, and communicating the old mine to the new, and timbering it from top to bottom, but especially through the section which had to be made down the open workings, was a gigantic job to do, and, no matter what may be said to the contrary, it was an undertaking that could not have been accomplished in less time than we have occupied about it. Until the shaft was made the pitwork could not, as a matter of course, be put in, and until we had the means for pumping the water from below the 74 it would have been folly to cut into the side lodes or drive on Tankerville lode to the junction of the south lode, as either of which would have drowned us out, and barred the great run of ore under water for at least a couple of years. I am persuaded the majority of the shareholders will consider that the above is a satisfactory answer to the question—"Why don't they drive out, and cross-cut?"

The 140 Fm. Level: We have opened on the footwall part of the lode here for about 12 fathoms in length, and find it to be attended by a large cavity, and rich in lead ore, worth along the bottom and west end 6 tons per fathom. In the 140 east we are driving a cross-cut to the footwall lode, which we expect to cut in course of a few days, and to find it a rich bunch of ore. The winze below the 130, sunk on the lode mentioned above, is now communicated to the said 140 fm. level cross cut, and the footwall lode in question reached. The ends will now be kept going here east and west, and the mine laid open lengthways as well as in depth. In course of a month or two the sinking of Watson's shaft will be resumed in a rich lode. We shall then be driving, sinking, and stoping at and from this level, all in good courses of ore, when we hope to demonstrate, that instead of being cut out, the yield of ore enables us to recover our former position again. The bottom, the ends, and back of the said 140 fm. level show a lode worth on the average 7 tons per fathom, and this is only the footwall course or division of the lode, and is standing to the south of the cavity, and, therefore, by the side of the lode, which has invariably carried the big run of ore. We have well weighed this matter, and make the statements in connection therewith advisedly.—The 130 Fm. Level: The 130, east and west of shaft, will now be started and continued regularly to lay open the ore ground already proved to exist, and for the purpose of making fresh discoveries, which we feel confident lie before us, and await our approach. The west end is worth 2 tons per fathom; the east end 2 tons per fathom—the main deposits of ore not having yet been reached in either drivage. The stopes in the back of the level, east of Watson's, show a wide lode of the following character. The footwall course, which is 4 feet wide, is analogous in every respect to the lode described in the 140 and 130 fm. levels; then comes a cavity, then a horse of ground or course of blue slatey rock, about 2 feet wide, and last, but not least, comes the hanging wall division of lode, which is 6 feet to 7 feet wide, and worth at least 15 tons of lead ore per fm. This is the grand feature of the mine, and when we tell you that it has only very recently been discovered by the stripping away the blue slatey rock or horse, referred to above, and that as far as cut into and proved it shows itself to be standing by the side of Watson's shaft, by the side of the 130 and 140 fm. levels, and supposing it carries the usual dip, it will go down to the west of both of the ends mentioned, and if so, the mine is better than ever, a fact that will, we think, be established shortly by the increased returns.—The 120 Fm. Level: The 120 west will be started this week in a lode worth 2 tons per fathom, and be continued west to the junction of south lode, and thence forward to the main deposit of ore known to exist there. We shall also drive the level east in search of fresh discoveries, as well as start a cross-cut north to lay open the old lode. The stopes in back of this level, east of shaft, are worth 6 tons of lead ore per fathom; stoping by six men, at 6*l.* 10s. per fathom.—The 110 Fm. Level: The 110 west is just started by four men on a lode worth 3 tons of lead ore per fathom; this drivage is also on the foot wall part of the lode to the south of the cavity, and will have to go 5 fms. further to catch the run of the big or hanging wall bunch of ore. We purpose also to cross-cut north out of this end to intersect the main part of the lode, which is not many feet beyond where the men are now working.—The 100 Fm. Level: This end is now 5 fathoms west of Watson's shaft, and has just reached the point where the foot and hanging wall courses of the lode form a junction, and beyond which we expect to find the great bunch of ore; this drivage is the furthest west of shaft of any point seen under the 62 fm. level, and the course of ore now in the end, and which has come out of the footwall, has opened our eyes more than any other thing as to our whereabouts, the position of the big bunch, &c., in the bottom levels. The lode now in the 100 end is not yet fully cut through, but is, as far as seen, worth 3 tons of lead ore per fathom; we shall push forward here without interruption, and hope to make good discoveries as we drive into the ground known to contain ore, as well as forward into the hill in the direction of the shale.

The 92, 82, and 72 fm. levels: The remarks made in regard to the 100, 110, and 120 fm. levels strictly apply to the 74, 82, and 92 west also, so I need not go over the ground again. In due course you will see the whole series of levels going forward and ore ground laid open for stoping in every direction. Above the 90 west we have hundreds of fathoms of ore ground in sight, which will, no doubt, be found rich towards the junction of the south lode. In the 74, 62, 52, and 42, east of Watson's, we also have hundreds of fathoms, and hundreds upon hundreds of tons of lead ore in sight, and which, no doubt, will be added to over and over again when the different ends go forward into new ground in the direction of the eastern band of shale, against which the old mine was found rich, the discoveries in it being made in my time and under my direction under the old company. It would take up too much space to report fully on the prospects below the 74 in the old mine. Suffice it to say, therefore, that when the pumps are at work in Watson's shaft we shall be able to resume operations below the said level where the old company left off, and where, I can assure you, there is as large a cavity, as strong a lode, and the prospect of as good a course of ore as can be seen on Tankerville lode itself. There are many other points also to come off in the old mine east at the 52, 62, and 74 fm. levels. The points now in hand, and which may be considered the settings for August, are as follows:—The 140 west, by six men, at 12*l.* per fm.; lode worth 7 tons per fathom. The 140, east of shaft and east of winze, by four men, at 14*l.* per fathom; lode worth 4 tons per fathom. The 130 west, by four men, at 14*l.* per fathom; lode at present in the twitch, but worth 3 tons per fm. In the 130 east we are cross-cutting north to main lode, at 16*l.* per fathom, by four men; lode in sight not fully cut through, worth fully 2 tons per fathom. The 120 stope on hanging wall lode, by six men, at 6*l.* 10s. per fathom, worth 15 tons per fathom. No. 2 stope in same level, east of the above, by six men, at 6*l.* 10s. per fathom, worth 6 tons per fathom. The 120 west, by four men, at 6*l.* 10s. per fathom, worth 2 tons per fathom. We are for the present driving north to cross-cut to the main part of the lode, and have already cut the sparry part of the vein. The stope, east of the shaft, by six men, at 6*l.* 10s. per fathom, worth 2 tons per fm. The 110, west of shaft, by four men, at 14*l.* per fathom; lode worth 6 tons per fm. The 100 west, by four men, at 14*l.* per fathom; lode worth 4 tons per fm. The 90 will soon be driven west of shaft in a lode worth 6 to 7 tons per fathom. The have some timbering to do here before we drive, owing to the shaft being so near. The rising and stoping in the 74, east of old shaft cross-cut, by six men, at 6*l.* 10s. per fathom; lode worth 3 tons per fathom. The stope in the 42, east of said cross-cut, by six men, at 6*l.* 10s. per fathom, worth 2 tons per fathom. From the foregoing and, looking at the chances of cutting into the main run of ore, which, as I have said before, we have every reason to suppose is standing below the 130, against the hanging wall, we have good hopes, by the time the pitwork is fixed, of creeping up to our former output of 200 tons a month. And should the side lodes be found as productive below the 62 as they were above, the profits from Tankerville must be equal to our highest, but reasonable, expectations. The total amount of ground removed in sinking engine-shafts, driving cross cuts, levels, winzes, and stoping from March, 1870, to June, 1873, is 1263 fms. 3 ft. 4 in., the quantity of lead sold being 5790 tons 12 cwts., realising 78,057*l.* 16s., out of which a profit of 37,200*l.* has been divided amongst the shareholders. These facts and figures, looked at in connection with the state of the mine when the company came into possession and what they can see and I have shown it to be now, there cannot be two opinions as to the permanent character of the property, or respecting the high amount of interest the shareholders will receive on their investments.—ARTHUR WATERS.

The CHAIRMAN said—I am sure you will all be glad to hear that clear and very satisfactory report that our manager, Capt. Waters, has given us of the present state and future prospects of the mine. Most of us here present can remember what the mine at surface was like when the company came into possession, for, with the exception of the small pumping-engine and some old and inferior dressing machinery in the bottom floors, there was little to indicate the presence of a great mine, but if you look round now you will see yourselves surrounded by a range of buildings and machinery, all fitted up on the most approved plan for dressing a large quantity of ore both economically and with the least delay possible. Since the company got possession of the mine some three years ago a shaft 12 ft. long by 6 ft. wide has been sunk to the 140 fm. level (170 fms. from surface), and made good to the bottom, long cross-cuts have been made connecting the old works with the new shaft, 5790 tons of lead have been brought to surface (a money value of 78,000*l.*), and 37,200*l.* has been paid in dividends—a result all must admit to be highly satisfactory. I can assure you from personal experience, having visited the mine, perhaps, oftener than any other shareholder, that there has been no want of energy and determination to carry out all the works connected with it in the best possible way, both by Capt. Waters and his very efficient sub—Capt. Smitham. And now, speaking as your Chairman and a large shareholder, I am satisfied that all that could be done in the time has been done, both underground and at surface. When the new shaft was holed to the 74 an attempt was made to timber and make good the mine below that to the 140, without interfering much with the get of ore; this was, however, found impracticable, and so extremely hazardous to the men engaged in the work that it was deemed advisable to suspend the get of ore in those places, and, consequently, to suspend temporarily the dividend. The shaft, as you have heard, is now good to the bottom, and Capt. Waters expects to have the pitwork in within four months from this time, cross-cuts put out, and either one or two of the side lodes opened on, from which it is anticipated considerable additional returns of ore may be made. In the meantime he promises a return of 150 tons per month from the stopes now opened on. He then proposed that the report and balance-sheet be received and adopted.——Mr. J. D. DAVIS seconded the proposition.

Mr. CREMONINI said he was a new shareholder, and had not had any experience of their agent, Capt. Waters; but he must say, after perusing the report of last year, he concluded that it was not probable there would be a suspension of dividends. He must express his disappointment that as soon as he became a shareholder the payment of dividends ceased; and so far as he had yet heard the time when they would probably be resumed was not indicated. It would have been more satisfactory to him had the Chairman stated the shareholders might expect a dividend either at the end of this or at the beginning of next year. Although the report was full of hope he was bound to confess some disappointment. One item in the accounts was the remuneration paid to the directors; when they were paying regular dividends of 6*s.* per quarter, the directors received 250*l.* per annum; and now the dividends were suspended, the remuneration to the directors had been doubled.

The CHAIRMAN said the shareholders at the last meeting passed a resolution unanimously that the remuneration of the directors should be increased from 250*l.* to 500*l.* per annum.

Mr. CREMONINI said that under those circumstances he thought the liberality of the part of the board would be shown if they relinquished the increased remuneration then voted until dividends were resumed. He hoped these remarks would not be taken as personal to anyone, his only object being to act consistently with the interests of absent shareholders. He did not propose moving any amendment.

The CHAIRMAN said the directors in their report had stated that they hoped to be able to pay a dividend very soon, there was already a balance in hand towards it, but they did not think they ought to resume dividends until a reserve fund had been formed, and certainly by the end of the year a dividend may be expected. He did not think the remuneration the directors received was at all excessive, looking at the time and attention they gave to the affairs of the company. Personally he was continually visiting the mine, besides which he went to London once a month. As to the dividends the directors, no doubt, had erred in beginning to pay them too soon, but when resumed they hoped to maintain them. (Hear, hear.)

Mr. PETER WATSON (a director) said he congratulated the shareholders upon having submitted to them on this occasion one of the best reports that had ever emanated from any mining engineer, and from the directors' past experience of Capt. Waters, they pledged themselves to its perfect truthfulness, and that every promise would be completely fulfilled. (Hear, hear.) The directors went into this mine upon the recommendation of Capt. Waters, and everything indicated had been realised; and as to its development, perhaps never in the history of mining had a shaft been sunk in so short a time, especially considering the manifold difficulties that had been encountered. By dint of great exertions and experienced skill, they found to-day that this great and important work was successfully completed, and in the course of four months the whole of the pitwork would be fixed. (Hear, hear.) From that time they would be able to drive east and west from the 140, 130, 120, 100, and up to the 70 fathom levels, and also develope the side lodes, which were known to be exceedingly productive. He was fully satisfied that all Capt. Waters had put in his report had been well digested by him, and would be fully realised. As to the remuneration of the directors, Mr. Cremonini should be made aware of the fact that the directors held no less than 4000 out of the 12,000 shares into which the company was divided, therefore a large proportion of the remuneration they received was simply placing it from one pocket into another. It was true that any shareholder, whether holding one share or one thousand shares, was perfectly entitled to direct attention to any point he deemed fit, but he hoped Mr. Cremonini before he left the mine would be so satisfied of its intrinsic worth as to induce him to increase his present holding of 20 shares. He (Mr. Watson) would be only too willing to resign his position into the hands of any shareholder who liked to chose to accept it. The remuneration scarcely paid their travelling expenses, but their large interest in the undertaking was the primary motive that induced them to take so much personal trouble in directing its affairs. Scarcely three years had elapsed since the company took possession of the mine, and in that short period the shareholders had received back in dividends more than one-half their capital, in addition to the enormous expenditure that had been incurred in and on the mine. He hoped the time was not far distant when the directors would come forward and propose to the shareholders that some substantial acknowledgment should be made to Capt. Waters for his great and successful exertions in bringing the mine into its present satisfactory position. It was impossible for any manager to be more faithful to his trust or more diligent, zealous, and able in the discharge of the important duties with which he was entrusted. His sole aim was the permanent welfare of the shareholders, to ensure which he had developed the work and carried out every detail in the most energetic and legitimate manner, and all that had been done was to perpetuate the remunerative prosperity of the mine. (Hear, hear.)

The CHAIRMAN, in reply to a question, said that comparatively few shares had changed hands. He congratulated the shareholders upon the position and prospects of the mine, adding that it never looked better than now. It was singular to note that when the mine was first acquired by this company the shares commanded a market value of from 20*l.* to 25*l.*, and although they were now much better worth 30*l.* to 35*l.*, the market value was not much more than one-half.

Mr. GREENSILL asked whether the directors had actually decided to accumulate a reserve fund before resuming the payment of dividends?——The CHAIRMAN said it had been so determined by the directors, and it would shortly be done.

Mr. CREMONINI, seeing the difficulties the executive had had to contend against, and having regard to the very favourable prospects of the mine, strongly recommended that before recommencing dividends a sufficient reserve should be accumulated to ensure future regularity. The directors were perfectly aware that a large number of shareholders resided in Wolverhampton who had real confidence in the mine, and whatever remarks he had made were out of no disrespect whatever either to the management or directors—he had no feeling except one of friendship and support to the undertaking, and his remarks were merely made in the true interests. (Hear, hear.)

Mr. HOWLAND noticed that ore sold on April 4 had been taken credit for; while, on the other side, the costs had not been charged up beyond February.

Mr. MURCHISON explained that the ore sold on April 4 was really February ore, and that there had been several sales since then, realising 5690*l.* After paying four months costs the balance was 2500*l.* up to the end of June. The balance-sheet comprised 12 months' costs up to the end of February and 12 months' ores.

Capt. WATERS added that Friday last they paid the June cost, and next month

that is, in September—they would pay the July cost: of course against that they
had got the sales of ore.
The CHAIRMAN said the accounts were made up as closely as possible.
Mr. SIDDONS expressed himself quite satisfied with the explanation.
Mr. WILLIAM MICHELL (who had just come up from underground) said he
did not tell the shareholders one-half as much as the manager was able to do.
Certainly Capt. Waters was fully justified in submitting a good report, for the
ore looked remarkably well. There were many points to come off during the
next few months which could not fail to considerably enhance the value of the
mine. There was a capital lode in the bottom end west that would produce from
20 tons per fathom. There was nothing whatever to fear as to the results
of the mine; it was in good working order, and he should think the costs would
soon be reduced. He found that a part of the lode going down north, below the
level had not been worked from the 90 to the 100. That appeared to be going west
in the north side; whether it was a separate lode or not he could not say. The lode
seemed to divide into three parts, sinking having been carried on in the middle
part. He had no doubt that the "splices" would yield 20 tons of ore per fathom.
Capt. WATERS said he had reported them at 15 tons.
Mr. MICHELL said the lode in the engine-shaft he should value at 20 tons.
Captain WATERS said the lode going down by the side of the other was worth
25 per fathom.
Mr. MICHELL, in reply to a question, stated that the side lodes he calculated
could not be reached for three or four months. Above the 40 there was a very
fine lode, worth 3 to 4 tons per fathom. The shaft was complete from the top to
bottom, and will be in every respect ready in three or four weeks. There was more
than in the mine in sight than could be drawn to the surface in the next seven years.
There was only justice to Capt. Waters to say that the whole work underground had
been carried out with the same masterly hand as was indicated at the surface; and
when the side lodes were cut as much stuff could be raised as they chose. The
successful completion of the shaft must have been a most hazardous one, but there
was nothing now but plain sailing before them. (Hear, hear.)
The report and accounts were then unanimously received and adopted.
Mr. SIMONS had much pleasure in proposing the re-election of the retiring director,
Mr. Peter Watson. The shareholders had every confidence in Mr. Watson, and
also in the mine.—Mr. GREENSILL seconded the proposition, which was put and
carried unanimously.
Mr. STANDING moved the re election of the auditors, and that their remunera-
tion be ten guineas.
Mr. SIDDONS seconded the proposition, which was put and carried.
Mr. PALIN had much pleasure in proposing that the best thanks of the share-
holders be given to Capt. Waters and the other officers of the mine for the satisfac-
tory and successful way in which they continued to develope the mine.
Mr. DAVIS seconded the proposition, which was put and carried unanimously.
Capt. WATERS, on behalf of his brother agents and himself, begged to thank the
shareholders for the compliment they had paid them. They conducted the busi-
ness of the mine honestly and, he hoped, intelligently; they were guided by honesty
of purpose, and if results had not always come out as expected it had been the
case through the force of circumstances beyond human control. He felt perfectly sa-
tisfied that the little mist would rapidly clear away, and that the mine would pay
as he had said the dividends any reasonable man could expect. He considered that mines
should always pay 10 per cent. upon the market value of the shares, and he thought
he could see his way clear by-and-bye; after sinking below the 140 and driving
east and west at that level, and also at the 130, 120, 110, 100, and 90 fm. levels,
and driving cross-cuts to the side lodes, at least such a result as that would be real-
ised. (Hear, hear.) Since the company took possession of the mine 1263 fathoms
of ground had been sunk and driven, and there had been sold 5799 tons of lead.
Taking the whole ground stoped, driven, and sunk on the lode, the yield had been
20 cwts. 11 cwts. 22 lbs. per fathom. If they deducted the dead ground, every inch
of ground had yielded 5 tons 11 cwts 2 qrs. 17 lbs. per fathom.
Mr. PETER WATSON directed Capt. Waters's attention to the fact that he had
stated the dividend would amount to at least 10 per cent. upon the market value of
the shares.
Capt. WATERS explained that he based his calculations on the shares being at
par. (Hear, hear.)
A vote of thanks was passed to the directors for their continued attention to the
interests of the company, which was duly acknowledged.—A vote of thanks was
also passed with acclamation to Mr. Murchison, the London manager.
Mr. MURCHISON, in reply, returned thanks for the cordial manner
in which his name had been received, and stated that it must be
very satisfactory to the shareholders generally to find that the Tan-
kerville Mine was looking so exceedingly well, and that another
dividend might be expected in a short time. He alluded to the great
advantage of lead mining generally as compared with that for copper and tin, it
being, as a rule, cheaper, safer, and quicker in its results; and, as important evi-
dence in proof of this, he remarked that many lead mines had been and were car-
ried on entirely by one, or perhaps a very few individuals, as private undertak-
ings, while he believed there was not an instance to be found of a copper or
tin mine being carried on privately, or by one person. He said, also, that he
believed that the paid-up capital of the public lead mining companies amounted
to something like 600,000*l.*, while the dividends those companies had paid to this
amounted to nearly 2,000,000*l.*, and the market value to about 1,700,000*l.* It
was also very important to bear in mind that the average price of lead was more
than 50 per ton than that of tin and copper. He thought, therefore, it was a source of
congratulation to the shareholders that they possessed a lead mine of so valuable
and permanent a character as the Tankerville. As time was getting late he would
not detain them longer, but again thanked them for the vote so cordially proposed
and received. (Hear, hear.)
The usual courtesies to the Chairman concluded the business.

CORNWALL MINERALS RAILWAY.

The first ordinary general meeting of shareholders was held at
the London Tavern, on Thursday,

Mr. A. C. SHERRIFF, M.P., in the chair.

Mr. R. C. PRESTON (the secretary) read the notice convening the
meeting.
The CHAIRMAN said the present meeting was held in accordance
with the recently-passed Act of Parliament, which requires that the
first ordinary meeting of the company shall be within four months
from the passing of the Act. The position of the Cornwall Minerals
Railway was essentially different from that which it held at the
first meeting. At that time they were really under the Limited
Liability Act, and he might say that they were the first railway
company in consequence that had been constituted under the Act. It had never been
contemplated that the undertaking should remain in that position, as there were
many difficulties which it would be impossible to overcome without an Act of Par-
liament, and it had originally been contemplated to obtain a certificate from the
Board of Trade or an Act of Parliament. He thought he was right in saying that
before the Royal Assent to their Act had been obtained nearly two thirds of their
works were completed. He thought it right to say that state of things was unpre-
cedented. (Hear, hear.) Fifty miles of line within one third of completion when the
Act had been passed for their formation. The works were by no means easy ones;
the district through which the line passed was a very difficult one; there were
many breaks in the shape of viaducts, embankments, and cuttings of a very exten-
sive character; but he was bound to say that they have been carried out with the
greatest amount of energy and industry by the contractors; and it was a pleasure
to the directors to record their debt of gratitude to the contractor, and the share-
holders would doubtless join in their congratulations. (Hear, hear.) Their pro-
spects were quite as promising, if not more so, than when the prospectus had been
placed before the public. They had possession of a district with an immense
amount of traffic not only in its mineral wealth, but from the beautiful character
of the scenery he had no doubt but that the passenger traffic, a feature insisted
upon by the Board of Trade, would form a large item in the earnings of the
line, although it had not been made a very great feature in their calculations.
He had been of this opinion all along. In the counties of Cornwall and Devon there
was a large amount of mineral wealth in the shape of iron ore to an almost incal-
culable extent, and the quality was of a very superior description. He had brought
some samples, which were on the table for inspection, and if the quantity was any-
thing like the quality the undertaking would be a very valuable one. It was prin-
cipally used for making the Bessemer steel, the bulk of the ore for which was being
brought from Spain. He would be sadly disappointed if they could not compete
with a country so far distant. From personal inspection, again and again renewed
by the directors, they felt quite satisfied that the line would be a complete success.
(Cheers.) They had very little support from the inhabitants of Cornwall, who
were so full of their ideas of tin and copper as never to have descended to the con-
sideration of the wealth they possessed in their iron ore. The company, as pioneers
and outsiders, would show them that they could estimate the value of this ore
better than the local investors when the undertaking became the success which he
had no doubt it would. The ordinary meeting was called for the purpose of passing
certain resolutions which followed the incorporation of the company, when the
meeting would become special, for the purpose of authorising the issue of deben-
tures. The amount of money spent upon the works was more than sufficient to
justify the re-issue, and it was merely a formal act.
The present directors—Mr. A. C. Sheriff, M.P., the Right Hon. the Earl of Dun-
raven, Messrs. C. Gilpin, M.P., S. Lloyd, J. S. Louth, C. H. Roberts, C. E. Treffery,
and G. Wilson—were unanimously re-elected, and 2500*l.* voted for their joint re-
muneration. The auditors—Messrs. Price and Waterhouse—were re-appointed at
a joint remuneration of 25 guineas.
The secretary's salary was proposed to be 300*l.* per annum, and carried.
The CHAIRMAN said he had forgotten to mention the china clay, of which 200,000
tons a-year were shipped at the various ports, and they had no doubt a great part
of it would come over their railway.
Mr. HEAD then proposed a cordial vote of thanks to the Chairman and directors,
which, having been seconded by Mr. ROSE, was carried unanimously.
The CHAIRMAN having briefly returned thanks for the compliment, the meeting
became special.
The CHAIRMAN said the directors, in asking for the necessary powers for the
issue of these debenturers, had to refer to the 41st clause of the company's Act, in
which the company were permitted to issue stock to any amount not exceeding
50,000*l.*, for the purpose of paying off certain surrenders and engagements of the
New Quay and Cornwall Junction Railway, which had passed into their possession.
When the resolution was passed it would be necessary to confirm it by a formal meet-
ing, on Aug. 28, at the company's offices, at 2·30 P.M. He then moved the fol
lowing resolution:—
"That the directors be, and they are hereby, authorised to borrow on mortgage
under the powers given to the company by the Cornwall Minerals Railway Act,
1873, subject to due compliance with the provisions of the said Act, any sum or
sums of money not exceeding in the whole 250,000*l.*, at such rate of interest not
exceeding 5 per cent. per annum as the directors shall think fit; and that if after
having borrowed any part of the money so authorised to be borrowed the com-
pany pay off the same then that the directors be, and they are, hereby authorised
to re-borrow the amount so paid off at the like rate of interest, and so from time
to time: and also that they be, and they are, hereby authorised to raise the said
sum of 250,000*l.*, or any part thereof, by the creation and issue of stock, to be en-
titled 'Cornwall Minerals Railway Debenture Stock,' and that there be attached to
the said stock a fixed and perpetual irredeemable yearly dividend or interest not
exceeding 5 per cent. per annum, and that the directors be authorised to do all acts
necessary to give effect to this resolution, and to carry the same into effect by the
creation and issue of the said stock, according to the provisions, and under the
powers of the above-mentioned Act."
The resolution having been seconded by Mr. C. H. ROBARTS, and carried unani-
mously, the proceedings terminated.

AUSTRALIAN UNITED GOLD MINING COMPANY.

An extraordinary meeting of shareholders was held at the offices,
8, Austinfriars, on Wednesday,—Mr. WINGROVE in the chair.
The notice convening the meeting having been read,
The CHAIRMAN said the various notices the shareholders had re-
ceived, and the late meetings, would have pretty well prepared them
for the position they found themselves in that day. The facts re-
solved themselves into this, that their principal creditor in Australia
had obtained a judgment against the company, and would be in the
position to, and doubtless would, exercise his right to dispose of the
mines by auction, in Australia, on the expiration of a month from
the date of the judgment, which would be in about a fortnight. Un-
less some very important action was taken by the shareholders the
mines would be sold by auction for the highest offer. This was a
matter for the consideration and judgment of the shareholders, whe-
ther they were likely to realise a higher price in Australia than here, and whether
it was desirable to make an effort to save their own property, still open to them by
subscribing to the debentures for the 5000*l.* mortgage on the mine, to be payable in
three years, with 50 per cent. The exigencies of the case warranted the directors
inviting this subscription, but large as was the offer it had failed to get the sum re-
quired. About 3000*l.* had been raised, on condition that the whole amount was
raised, for it had been justly argued that it would not do to improve the property
for the bank to come forward shortly afterwards and place the company in the
same position as it was now in. It then occurred to the directors (he was answer-
able for the sin of it, if such it was) that the better plan would be to give the share-
holders an opportunity to become the purchasers of the mine, and he had drawn
up a slight sketch of a prospectus inviting subscriptions for a new company to be
formed, for the purpose of buying the assets and estates of the old company; to
that end subscriptions had been received, but not to the extent anticipated, only
about 60 shares (50*l.* each) having at present been subscribed for. There were three
courses open to the shareholders—whether they would sell the property in Australia
on the best terms, whether they would themselves offer to take the mortgages on
the property on the high and enormous terms he had mentioned, or whether they
would form themselves into a new company to purchase the property of the old
one. He was advised by the solicitor that this was perfectly legal, and it was pro-
vided for in the 76th and 114th clauses of the Articles of Association (read). He
thought the legality of the course was perfectly clear. Several objections had, of
course, been raised to the plan they proposed to adopt. (The Chairman then read
extracts from several letters on the subject, commenting briefly on them as he read
them.) The prospectus, he said, had been drawn up and sent out in a very crude
state, as they had been been very much hurried; but it was thought to be the best
thing that could be done. (Hear, hear.)
A SHAREHOLDER asked what were the debts of the company to the bank, and in
Australia generally, as well as in London?
The CHAIRMAN replied on June 17 the debt to the bank was 2504*l.*, merchants'
bills and other items brought the sum to nearly 3300*l.* Since that date it was
supposed that they had not been much increased, as the operations had almost
been suspended: 200*l.* would clear all the debts in England. Mr. Lamb's letter of
June 17 stated that great care had to be exercised in opening out the alluvial gutter.
Up to the present time only a few of the machines had been taken out. To all
appearance the ground would pay well. The gutter was very wide, and with a good
average depth of wash. He (Mr. Lamb) thought that the mine had not been pro-
perly opened out in the first place—*i.e.*, with main drives on the reef 20 feet or so
underneath the wash, with occasional "jump ups" to take the dirt down by, the
mine would have been worked at much less expense and with better drainage. The
main drives being on the reef, the dirt could have been taken out with celerity and
safety. It had, however, been a race for gold to pay expenses, and they could not
afford all dead work for a month or two. He had had great difficulty to carry
on for the past three months. About 180*l.* was due for wages, for which he trusted
he would get sufficient gold to pay. He hoped to get a remittance by the next
mail. He believed that the present crisis would soon be over. The mine captain
reports:—"We struck wash in the north drive on Saturday last (letter dated
June 16), and washed a tin dish of dirt, which proved satisfactory. There is a
heavy flow of water coming from the face, which will cause slow and troublesome
driving, but I think it will soon drain. Of course I cannot give a decided opinion
on the gutter in this part of the mine until we cross it. East in the same
gutter we have extended a drive 100 ft. north-west, and also driven 116 ft. across
the gutter, from which we have had payable wash gold passing in the faces.
Washed 400 trucks of dirt during last week, which yielded 14 ozs. of gold. As
stated in my last report, after the ground is opened and we commence to block (say)
two or three months, no doubt it will become a dividend-paying mine." This was
the last report they had had. A friend had given him a copy of the *Castlemaine
Representative* of June 17, which had the following:—"Australian United Mining
Company (Central Mine, Malmsbury).—A small machine of wash and mullock
from the new lead has been washed, and it yielded 3½ ozs. of gold. The lead has
been proved for the enormous width of 130 ft., and it is quite certain that it is the
Main Park lead, which the company originally sank for." He thought it needless
to say that the directors knew nothing whatever about that article. The share-
holders were as well able as the directors to form an opinion of the desirability of
saving the property. The directors had given practical proof of their belief by sub-
scribing for more than their proportion of the shares, so that a sufficient sum of
money should be raised to pay off the debts and leave 2000*l.* or 3000*l.* to go on
with. They were short of that amount at present, and failing to raise it within
the next day or two, it was with much regret he thought that they would have
arrived at the end of their hopes. He was still hopeful that the shareholders would
see the desirability of making an effort. It had been said that it was only wanted
to benefit a few, but this he utterly disclaimed having any connection with. It
would be proposed—"That the directors are hereby authorised to dispose of the
business, assets, and estates of this company to another company for the sum of
4000*l.* in cash."
Major JELF SHARPE, in seconding the resolution, said he had come specially
from Scotland to attend the meeting. He did not think the chair could have been
more ably filled by anybody than it had been by Mr. Wingrove. (Hear, hear.)
He was a subscriber to the new fund, and had still the very highest opinion of the
property. He appealed to the shareholders to subscribe the 5000*l.* They heard
from all sources that it was a very valuable property.
After some discussion respecting the shares of the new company, Mr. TIMOTHY
proposed, as an amendment, that "The directors are hereby authorised to dispose
of the business, assets, and estates of this company to another company, consisting
of a capital of 16,000*l.*, in 1*l.* shares, for 4000*l.* in cash and 6000 fully paid up shares,
deferred in respect to dividends until the remaining 10,000 shares, or other smaller
capital actually paid up, shall have received dividends at the rate of 25 per cent.,
and then to rank for a dividend *pari passu* with the other shares in the profits above
25 per cent. per annum." The mover explained that that would give a share in
the new company for every five in the old one, which would be a great advantage
to the poorer classes of shareholders.
Mr. HORNE seconded the amendment, which had the entire concurrence of the
directors. It was then put to the meeting, and carried.
The proceedings then closed with a vote of thanks to the Chairman.

RICA GOLD WASHING COMPANY.

The ordinary general meeting of shareholders was held at the Lon-
don Tavern, on Tuesday,—Mr. ALFRED COBBETT in the chair.
The SECRETARY (Mr. S. A. Cobbett) read the notice convening
the meeting. The report was taken as read.
The CHAIRMAN said the report furnished the shareholders with
the extent of the operations of the company from the commence-
ment, and from that report it appeared that what had been set forth
in the prospectus had been accomplished. From the latest advices
from Mr. Clarke it was announced that in two weeks he hoped to
reach the main bank. If they could have deferred the meeting for
a month, or perhaps two months, the directors would have been able
to face the shareholders with more distinct realisations than they were at present
able to do. They had accomplised the opening of the mine at about the cost antici-
pated at the outset. There was every probability from the report of Mr. Clarke
that the yield would be at the ratio then expected. They firmly believed that in
a few months all their anticipations would be determined entirely in the manner
they formerly expected. There had been a great deal to do, as the country and
the labour were very peculiar in La Rica and Malpaso. Mr. Clarke had had to
make a ditch 7½ miles long to convey the water. This had been of itself a work
of large magnitude, all done for the purpose of bringing the essential matter to
produce the gold. This season of the year was what was usually termed the wet
season, but in most parts of the world it had been an unusually dry one. They
hoped that the eccentric state of the weather would continue, and as they had had
a dry season when it was usually wet that the season which was usually dry would
this year be a wet one. He had little to say, for everything depended on the con-
jecture as to the amount of water they would get. If they had sufficient water
he had no doubt about the gold. Mr. Welton reports that he had excavated 7½
miles of the ditch, which required 1560 feet of flume, 3 ft by 2 feet, and 2588 feet
of pole work, to keep up the sides of the ditch. This sort of work had to be done
properly, that the future might be secured against any accidents. For the pur-
pose of securing water for the dry seasons, Mr. Welton had thought it desirable to
form a reservoir, 170 ft. long, 70 ft. wide, and 10 ft. deep, to contain the water that
might be passing along at the time when the pipes were not operating to supply the
necessary water when required. There was another sluice, 460 ft. long, carried on
"horses" (a kind of tresele), 37 ft. wide, and 20 ft. high, which would give an idea
of the work done. The ground already worked by the machine was 188 ft. in
length. The manager hoped in two weeks to have reached the bank. Various
buildings had been completed, and there was a large quantity of materials in hand
ready for the continuation of the sluices as they went along. La Rica being on the
same range as Malpaso, the directors had no doubt but that their anticipations of
both of the properties would be realised. He (the Chairman) did not think that
any time had been lost, for the works had been very extensive, and they had been
effected at a very moderate outlay. He had nothing more to add, but should be
happy to answer any questions. Mr. Peechey could give any information on the
subject, as he had been engaged in operations of this description. He moved
that the report and statement of accounts be received and adopted.—Mr. THOM-
SON seconded the resolution, and said that in the report of Feb. 15 Mr. Clarke ex-
pected trouble with the land slides in case of heavy storms, which would cause
an important delay.—The CHAIRMAN replied that the ditch was secured by
2588 ft. of pole-work against any sudden outflow of water, and blocked at the end by
two flood-gates.
Mr. THOMPSON asked whether more water could not be brought in?
Mr. ROGERS said that steps were now being taken to bring in more water.
After some further conversation, and remarks from Mr. DUNLOP, a question was
asked respecting the small amount of money in hand.—Mr. PECHEY thought if
the time came that they would want more money they would not have any trouble
to get it—if necessary the directors would find it themselves. If they could once
work the property the profits were certain. They had sufficient water to carry
them to the bank, and to see what it is worth. A gentleman writing to him from
the property said that Swee land could not come in sight of Malpaso. If the pro-
perty with 100 inches produced $1000 a month, as it had done, if the water was
increased the profits would increase in the same proportion. It was only a ques-
tion of what amount of water could be brought to bear on the deposit. The first
run of 400 inches of water at Malpaso would bring in 20 per cent. profit.
In reply to a question from Mr. Thompson, the CHAIRMAN said that each suc-
ceeding advice from Mr. Clarke confirmed the opinion they had before formed of
his value. The directors placed the greatest reliance on him.
The motion for the adoption of the report was then put to the meeting and car-
ried. The retiring directors, Messrs. Cobbett and Peechey, were unanimously re-
elected, as was also Mr. D. H. Evans, the auditor.
The meeting closed with a vote of thanks to the Chairman and directors.

THE AZOFF COAL COMPANY.

The first ordinary general meeting of shareholders was held at the
City Terminus Hotel, Cannon-street, on Aug. 2,
Mr. A. T. F. CLAY in the chair.
Mr. STREATFEILD (the secretary) read the notice convening the
meeting and the following directors' report:—
This meeting is held in conformity with the company's regulations, which require
that the first general meeting shall be held within four months of its incorporation.
The directors have to report that possession of the properties was taken by the com-
pany on May 15, and that they have been fortunate in securing the services of a
well-qualified and experienced English manager, who is now at the works. The
directors have thought it judicious to complete some underground works that were
in progress when the transfer of the property took place before contracting for
supplies of coal: but they expect to begin regular deliveries on a large scale during
the autumn. The calls due up to the present time have been well responded to,
and the directors do not see any immediate necessity for making further calls.
The CHAIRMAN said as the company had been started for such a
short time there was little to be added to what was contained in the
report. The meeting was merely a formal one, convened to comply
with the requirements of the Act. All the directors had heard since
the formation of the company had tended entirely to confirm the re-
ports they had previously received. At their next meeting he hoped to have a
different story to tell; the meeting would be held in August next year. All the
reports received prior to sending out the prospectus had been carefully examined,
but they thought it advisable to obtain the report of an entirely independent en-
gineer, upon whose opinion they could thoroughly rely. They, therefore, sent out
an engineer, and his report confirmed in every particular the report previously
received from the vendors. The manager at the works was a German, a man of
considerable knowledge and experience in coal mining, but they thought it would
be more satisfactory, as the bulk of the shareholders were English, to have an
English manager for their mine. After considerable difficulty they were at last
fortunate enough to secure the services of Mr. Young, of Newcastle-on-Tyne, a man
of considerable experience, and well known in Newcastle. He went out on July 5,
and a telegram had just been received announcing his safe arrival at the works.
From the reports of the German manager they learned that they were now con-
necting the two shafts which had been opened on one of the properties by a level;
this would be completed during the present month, when the colliery would be
in a position to deliver large quantities of coal at once. They also sent out an
engine-wright and foreman, both English. They had received a telegram from
one of the Russian Board of Administration, begging the directors to dispatch the
necessary power of attorney to Mr. Young, as valuable contracts could be entered
into. One thing was omitted in the report—that was the resignation of Sir Wm.
Clay, through pressure of business, and the directors had, by the authority vested
in them, elected Mr. Schwaben in his place. He had nothing further to add ex-
cept that the prospects were extremely good, and that the company could supply
coal at two thirds the cost of wood fuel which had been used, and which had be-
come very dear. He moved that the report of the directors be received and adopted.
Mr. F. WIGAN seconded the resolution, which was carried.
Mr. WILSON asked what number of shares had been allotted, and whether the
mine was held at a fixed rental or royalty, and for any specific time. He also
asked whether the water increased, and if the mine generated much gas. He
thought the course the directors had adopted a very judicious one.
Another SHAREHOLDER asked what quantity of coal could be taken out.
The CHAIRMAN replied that the total number of shares proposed to be issued
had been 15,000, of which 8219 were applied for and allotted. They had ample
capital for present purposes; if the property turned out nearly as well as they ex-
pected, it would be a matter of little difficulty to get further capital. The mines
were held in perpetuity, with a royalty of 4¼*d.* per ton. The water in the pits was
very little, and could be easily kept under by the machines at the mine working
10 hours a-day. They had had no report as regarded the gas, but he had been in-
formed that there was no gas generated in the mine. The quantity of coal was as
stated in the prospectus and the reports since received.
Mr. HAMMACK congratulated the directors on their judgment in having an English
manager at the mines, as he would be able to deal with the men better than any-
body else could.—The CHAIRMAN said the Englishman sent out had a perfect
knowledge of German, which was the language spoken by most of the men. He
had had 15 years experience as manager of a German mine; he was very gratified
to find that their course of proceeding had given much general satisfaction. He
regretted that Mr. Charrington was not present; he was on the Continent, and had
found it impossible to get home in time to attend the meeting.
After some conversation on the question of election of auditors, Mr. HUNTER
proposed that Messrs. Cooper Brothers and Co. and Mr. Hammack should be elected
auditors for the ensuing year, at a remuneration of 20 guineas per annum each.
Mr. QUICK, jun., seconded the resolution, which was carried unanimously.
On the motion of Mr. HAMMACK, seconded by Mr. HUNTER, a cordial vote of
thanks was given to the Chairman.—The CHAIRMAN, in returning thanks for the
compliment, said he was very much gratified at the kind vote of thanks. All they
desired was to meet the shareholders in a candid spirit, and to assure them that all
they could do to promote the interests of the company would be done. (Cheers.)
The proceedings then terminated.

BONVILLE'S COURT COAL AND IRON COMPANY.

The statutory meeting of shareholders was held at the City Ter-
minus Hotel, Cannon-street, on Tuesday,
The Hon. H. W. PETRE in the chair.
Mr. ROBERTS (secretary) read the notice convening the meeting.
The CHAIRMAN said the shareholders were doubtless aware of the
reason of the meeting. It was ordered by the last amended Joint-
Stock Companies Act, which provided that a meeting should be held
within four months from the date of corporation. There was no re-
port or balance-sheet, and it would not be necessary to detain the meeting long, or
to say much on the affairs of the company. The company had now been in pos-
session of the property about four months, and so far the directors were very well
satisfied with the appearance of things. Of course, they had no precise account,
and it would be difficult to say what the exact position of the company was, and
it would not be wise to anticipate too much. He thought, so far as they had seen,
and from the previous history of the property, there was every probability that a
10 per cent. dividend would be declared at the end of the first year. According to
the Articles of Association and the Act they were not bound to have another general
meeting until this time next year, but they intended to have a general meeting as
soon as possible after March 30, when the yearly statement of accounts would be
laid before the shareholders. The whole of the capital had been paid up, which
was not always the case; he was happy to say it was the case in the instance of
this company. They had two or three things in hand which would doubtless prove
what had hitherto been said of their works. Amongst other things the railway,
which had been mentioned in the prospectus, had had their attention. They were
doing various things to prove the railway; they were about to run a locomotive
instead of running the trucks with horses. The loading and unloading of the
vessels had been done by hand: they were now erecting a steam-crane, which would
be of great advantage. All these things were provided for out of the capital as it
stands, so there need be no anticipation of borrowing for those purposes. A very
important matter, perhaps the most important with regard to their interests, was
the making of real profits out of the culm, which had been referred to in the pro-
spectus. It was a small coal, and arose partly from the nature of the coal and
partly from the nature of the seams. This culm at present had yielded hardly any
profit at all. The attention of the directors had been directed to its utilisation by
means of some of the patent fuel processes. They were now trying the "diamond
process:" his own opinion was in favour of it, but they were anxious to adopt the
best system. If they could make use of one of the patents their profits would be
very greatly increased. Another thing which would improve their position was
the completion of the new shaft, which had been commenced by the former owners
but not completed. By this means they would get more coals at less cost than at
present. The one great difficulty they had to contend with was the labour ques-
tion; there was a great scarcity of men, which to a certain extent crippled the out-
put. Another thing they had in hand was the building of cottages: if they could
get cottages built on the land it would be a great facility to get men and keep them.
With these few remarks he would conclude, as he had nothing further to add, by
observing that the state of things was very satisfactory. If any shareholder had
any question to ask he would be happy to give any information of which he was
in possession.
A SHAREHOLDER asked if steps would be taken to get on the Stock Exchange,
and whether all the shares had been allotted and paid up?—The CHAIRMAN re-
plied to both questions in the affirmative, and stated that the interest on the calls
not at once paid up had also been paid.
A SHAREHOLDER said that in the prospectus it had been stated that there was a
large demand for their coal, so that they would not have to seek for customers;
by this he thought that the dividend would be paid as had been stated. He asked
what had been done in regard to the furnaces?—The CHAIRMAN replied that a
one-blast furnace was at work, and another would be ready shortly. Nothing had
yet been done with respect to the others, as they had not yet decided on what form
of furnace was the best to be adopted.—The meeting then separated.

CAPPAGH MINING COMPANY.

The fourth annual general meeting of this company was held at
the office, Finsbury-place South, on Tuesday,
Dr. GEORGE ROGERS in the chair.
The report and accounts were adopted, and the retiring directors
and auditors re-elected. The managers report stated—
"The question to be determined during the depressed state of the copper trade
is whether or not the following operations shall be carried out, or wait for better
prices. It is highly important, and absolutely necessary for the future success of
the mine, that the following work be done:—To drive the 104 fathom level and
115 fathom level ends west, and the 115-fathom level east. It is one of the most
important points in the mine to intersect the great cross course in the 104 fm. level
west; and, if its underlie is same as in upper levels, about 4 fms driving will reach it.
I have every reason to believe that good profits will be the result of this work.
The 115 end in the meantime should be driven west, as when the cross-course is
intersected—the ground about it being soft—a more rapid and economical deve-
lopment of ore ground would be made by sinking a winze from the 104 to the 115,

and rising from the 104 fm. level to the 94 fm. level for stopes. There is splendid ore all along the bottom of the 115 fm. level, east of the skip-shaft; this looks well for a deeper level, and the end should at once be pushed east as fast as possible. I expect important results in the skip-shaft before we reach the 125 fm. level. There are two lodes in it, or it may be more correct to say one lode 12 ft. wide; the south lode, or part, is 15 in. wide, with rich yellow and bell-metal ore imbedded in a dark matrix, unlike anything I have seen in this district,—it is nearly vertical; and the north lode underlies south, and consists of purple and grey ore, the leader being on the north or foot wall; the intervening formation consists of elvan, quartz, carbonate of lime, and cross-veins of rich ore, all of which appear to drop into the south lode. There is, therefore, a *bona fide* prospect in sinking the skip-shaft with all speed; and if the ends are pushed forward, as suggested, with a full pare of men in each end I cannot conceive but profitable results would follow. We have ample machinery, in perfect order, for extending the operations to any depth, and also for hauling and crushing. The dressing-floors and all surface works are compact and complete; the outly, therefore, of a comparatively small amount of capital, for extending operations would place the mine in a first-rate position.

SUCCESS, RUSHY CLIFF, AND NANCY CONSOLS MINING CO.

The half-yearly meeting of shareholders was held at Derby, on Tuesday,—Mr. H. C. SIMPSON in the chair.

The SECRETARY read the notice convening the meeting, and the reports and balance-sheet were submitted.

The directors referred with gratification to the preliminary expenses, amounting to 94*l.* 2s. 4d. only; this it is proposed to write off at 20*l.* per annum after the first year. The accounts to June 30 showed balance, 647*l.* 14s. 6d.; remaining to be called up, 50*l.* 15s.; unallotted shares to complete the 2000*l.* offered for subscription, 319*l.*; making altogether an available asset of 1468*l.* 11s. 6d. Since June 30 the remaining unallotted shares have been disposed of. The directors are perfectly satisfied with the way in which the works at the mines are being carried out, and Capt. Francis has their entire confidence. Since April the work has been pushed on with greater rapidity. Lead has been found at all points at which work has been carried on, and the directors hope that at no very distant date the mines will prove most remunerative.

Capt. HENRY FRANCIS, the manager, after referring to the various points of operation, says:—"Our work at Nancy shaft has been heavy and tedious, at the same time, it will, I hope, be considered satisfactory that it may be classed now as one of the best shafts in Derbyshire, and that our progress, notwithstanding impediments or obstructions, has not been slow, but, on the contrary, satisfactory. I must here beg to refer you to my weekly reports for a description of the magnificent vein this shaft contains, and to add that I have no doubt whatever it will be found at a point from 40 to 60 yards deeper to be very rich and productive; in fact, it cannot fail to be otherwise, speaking from present appearances. I, therefore, need not say more than that the sinking here should be carried on with the greatest dispatch."

The CHAIRMAN expressed the hope that the reports and balance-sheet would meet the approval of the shareholders. The work carried on at the mines was still in its infancy, and only a limited number of men could at present be employed at the different points under operation, but all those points were of great interest, and all showed that eventually they would be very remunerative. There was another subject for congratulation, and that was that the whole of the shares placed upon the market had been disposed of. It was the intention of the directors to issue a limited number at a premium, but what that premium would be he could not say, as they decided not to issue any more for a couple of months, and then the work would be more progressed at the mines. He concluded by proposing that the report and balance-sheet be adopted, which, after a short discussion, was unanimously agreed to.

The directors then placed their resignation in the hands of the meeting, and offered themselves for re-election. Eight names were then proposed, and a poll being demanded, Messrs. Robinson, Simpson, Baghurst, Bing, Nadir, Swimla, and Hewitt were declared duly elected.

A vote of thanks to the Chairman and directors terminated the proceedings.

DOLCOATH MINING COMPANY.

The twelve-weekly meeting was held on Monday, at the account-house, under the presidency of Mr. WM. SHILSON, of Tremough. There was a numerous attendance of shareholders, who appeared to be thoroughly satisfied with the manner in which the mine is worked. One point particularly worthy of notice is the admirable manner in which the accounts were brought up, the whole of the cost having been charged up to the last pay-day, July 12—a remarkable contrast this to the manner in which the accounts of certain mines are kept behind, sometimes to the extent of four months. The total expenditure for the 12 weeks was 15,423*l.*, and the receipts, including the sale of 538 tons of black tin, amounted to 18 669*l.*, which, added to the last account balance, left a disposable surplus of 3273*l.*, out of which a dividend of 15s. per share was declared, and 51*l.* carried forward to the credit of the adventurers. The agents' report (given below) having been read, it was resolved on the motion of Mr. R. HIDDERLEY, that the accounts and report be received and adopted.

Capt. JOSIAH THOMAS expressed his regret that the dividend was not larger, and said the fault could not be attributed to any falling off in the mine, but to the difference in the price of minerals and materials. Twelve months ago tin was bringing 12*l.* per ton more than at the present, and if this state of things continued much longer half the mines in Cornwall would have to shut up. Dolcoath was looking better than ever, the bottom end (the 314) was worth 150*l.* per fathom, and showed no signs of exhaustion or decay. Harriett's part of the mine was likely to open up well, and if they did not return the enormous profit of 45,000*l.* this year, as they did last year, he had no doubt that if they took the average of the two years they would find themselves pretty well off after all. Investors in old-established mines like Dolcoath need not be afraid of receiving no interest, as they did not rest satisfied with simply taking away the tin discovered, but had a full force of tutwork men exploring new ground.

The Rev. W. W. BUTLIN proposed a vote of thanks to the Chairman, and expressed his determination to stick by Dolcoath as long as he was able, since he did not know a better or more secure investment. Their old friend, Mr. Pearse, of London, had encouraged them in dark times, and his prophecies had come true. He (the speaker) did not see any reason for being downhearted.

The CHAIRMAN briefly acknowledged the compliment, and in proposing that the best thanks of the meeting be given to Capt. Josiah Thomas, observed that it was one thing to manage a mine where everything was bright and hopeful, and another thing when all was gloomy and disheartening. They could congratulate themselves, however, on possessing a manager who could direct the necessary operations rightly, although so many difficulties were in the way. The vote was carried, and

Capt. JOSIAH THOMAS, in returning thanks, observed that it was certainly not so pleasant to manage a mine now as it was some 12 months ago, but he was glad to say he had received a letter from their old old friend Mr. M. G. Pearse, of London, in which that gentleman expressed it as his firm conviction that tin must shortly rise. In conclusion, Capt. Thomas said that a report had been circulated to the effect that Dolcoath owed 10,000*l.* for coals. Now, this he would most emphatically deny, for all their accounts were charged up as closely as possible.

The managers and agents, Capt. Josiah Thomas, William Provis, John Tonkin, and John Bawden, in the course of their report, said:—The 314, east of engine-shaft, has very improved, and is now worth 150*l.* per fathom: we consider this to be a very important feature, as this end is still 6 fathoms short of the point where the lode at the 302 became valuable. The winze under the 302, which is 4 fathoms behind the 314 end, is sunk 7 fathoms, and is worth, for 9 feet long, 20*l.* per fm. The eastern winze under the 302, which is worth, for 9 ft. long, 15*l.* per fathom, has been suspended on account of the large quantity of water, but we hope to be able to recommence sinking this winze shortly. The 290, west of Old Sump, is worth 20*l.* per fathom. The 248, east of Harriett's, is producing a little tin. The 248, west of Harriett's, is worth 40*l.* per fathom. We have commenced to sink a winze under the 2 6, 10 fms. before this end, where the lode is producing tinstuff of low quality. The 236, west of Harriett's, is worth 45*l.* per fathom. The winze under the 224 is holed to this level, and the ground set to stope.

[For remainder of Meetings see to-day's Journal.]

COKE OVENS.—Mr. H. WILLIAMS, of Wigan, has patented some improvements in the utilisation of the waste heat from coke ovens for the manufacture of soda ash, caustic soda, and for other similar purposes, which consist principally in arranging two or more coke ovens side by side, in such a manner that their flues unite in one chamber, and charging and working such coke ovens alternately, or in succession, and in employing the heat and gases evolved therefrom in a secondary furnace adjoining the said coke ovens for the manufacture of soda ash, caustic soda, and other similar manufacturing purposes.

IRON ORE TRADE IN ITALY.—During the year 1872 a Royal Commission has been enquiring into the condition of Italian industry, and has recently published the report of the results. With regard to the duty on the importation of pig or unmanufactured wrought iron, many manufacturers examined desired it either abolished altogether, or reduced so as to be more in proportion to the duty on machinery and manufactured articles. Several of the engineering firms declared they could hold their ground against English competition, as though fuel and iron were dearer, labour of excellent quality was vastly cheaper than in England. In Florence, two of the witnesses, M.M. Masson and Bozza, the former owner and the latter manager of ironworks, when asked whether it was more advantageous to smelt iron in Italy or import it from England, gave opinions, the first in favour of the importation if charcoal was to be used for smelting in Italy, whilst the latter maintained the reverse opinion, on the understanding that coal could be employed. M. Bozza deprecated the proposal before the Italian Parliament, that the Elba Iron Mines should be put up to public auction, as its effect would be to throw them into the hands of English speculators, who would outbid all Italian competitors, and afterwards raise the price of ore so high as to make the economical smelting of iron in Italy quite an impossibility. Mr. Langer, to prevent the Elba ores being entirely lost to the Italian ironmasters, proposed that a heavy export duty should be imposed upon them.—*David Forbes, F.R.S., in Journal of Iron and Steel Institute.*

NEW MODE OF LEAD ASSAY.—Mascazzini heats the ore to be valued with twice its weight of ammonia sulphate: the metals present are thereby converted into sulphates. By boiling with a mixture of diluted hydrochloric and sulphuric acids, all iron, copper, &c., are dissolved, whilst lead sulphate and silver chloride are left. These are washed, dried, and reduced with zinc and hydrochloric acid: the resulting metallic mass is fused in a crucible along with a flux of thirteen parts potassium carbonate, ten sodium carbonate, five of borax, and five of starch. Cerube, minium, ores rich in silver, gold, antimony, tin, copper, &c., and analogous substances, may be thus assayed. If there is not enough lead present for cupellation in the case of silver ores, more may be added.—*Dingler's Polytechnic Journal*

RAPID DESILVERISATION OF LEAD.—Roswag and De Pauville patents a process consisting of treatment with zinc, eliquation of lead, amalgamation of the zinc scorie left, squeezing through chamois leather, and eliquation at a low temperature of the solid mass left. The lead amalgam thus obtained contains nearly all the silver, which is separated by distillation and cupellation; the zinc scorie thus left are again amalgamated to extract the last traces of silver, the adhering mercury distilled off, and the residue melted with tar and used over again. —*Bulletin Society of Chemists, Paris.*

THE COPPER TRADE.

Aug. 7.—The statistical position of this metal continues to improve; imports steadily decrease, whilst exports increase, and the home trade, though not so well off for orders as last year, are nevertheless fairly employed, and at remunerative prices. In the six months the actual decrease in imports, as compared with 1872, is 6213 tons. The increase in exports is 6795 tons; taking these two items together, a difference in the figures as compared with August, 1872, of over 13,000 tons. The actual decrease in the stock of copper in the public warehouses is apparently only 3000 tons from the highest point reached last year; the inference, therefore, is that at least 10,000 tons has been drawn from the smelters and the surplus stocks of manufacturers generally, leaving both these very bare of raw material. Speculation has for the present entirely disappeared from the copper market, and the business doing is purely for export and consumption, all the orders passing from day to day being given out on the commission of immediate delivery. The late reduction in the fixed prices of brass and yellow metal will give an impetus to the demand for copper, as these two articles have been kept up unduly, and rather to the injury of the trade in them. For the latter, especially, there is already far more demand. Prices in India, both of copper and yellow metal, continue to improve, and now leave a profit on both to the importer, somewhat limited, however, in consequence of the very low exchange ruling in the East. From Chili supplies continue to decrease, caused still from the enhanced cost of coal and labour. The charters to June 30 were 21,400 tons against the corresponding period last year of 24,200 tons. The shipments from Jan. 1 to June 14 were 20,272 tons against 20,096 tons. The estimated stock for the month ending July 14 was 8274 tons, but there has clearly been some error of late in the estimates of stock, as the last four charters have only been about 50 per cent. of the quantities expected to be chartered. Small shipments of Australian continue to be made to the East direct, and the quantity coming here seems to be diminishing. From Japan there are constant enquiries as to the prospects of this market in the future; but at present our price does not encourage shipments from that quarter. The position of copper, on the whole, is decidedly stronger than for some months past, and whilst the demand now ruling continues, and supplies do not increase, present prices may be looked upon as a fair value of the article.

The imports of copper into England for the first six months of the following years, were:—1870, 31,440 tons; 1871, 33,698 tons; 1872, 41,532 tons; 1873, 35,319 tons. The exports for the same periods, were:—1870, 31,074 tons; 1871, 21,612 tons; 1872, 20,747 tons; 1873, 27,542 tons.

The position from Aug. 1, 1872 to Aug. 1, 1873, was as follows:—

	Price.	Stock on hand.	Stock, including afloat and chartered.
1872—August 1	£103 0 0	.....Tons 27,733	.....Tons 39,733
September 1	90 0 0	 27,922	 33,989
October 1	84 0 0	 29,342	 41,409
November 1	86 0 0	 28,940	 40,051
December 1	85 0 0	 30,753	 40,453
1873—January 1	90 0 0	 32,001	 41,991
February 1	87 0 0	 32,432	 42,012
March 1	85 0 0	 32,180	 41,663
April 1	92 0 0	 30,396	 39,375
May 1	88 0 0	 29,908	 39,024
June 1	84 0 0	 30,912	 38,984
July 1	80 0 0	 30,634	 39,856
August 1	81 0 0	 31,607	 39,279

And the comparative positions at the same date of the past four years with the present are as follow:—

	Price.	Stock on hand.	Stock, including afloat and chartered.
1869—August 1	£ 67 0 0	.....Tons 28,112	.....Tons 45,356
1870—August 1	63 0 0	 29,522	 41,437
1871—August 1	68 0 0	..... 28,5 6	 36,680
1872—August 1	103 0 0	 27,733	 37,733
1873—August 1	81 0 0	 31,607	 39,279

HENRY ROGERS, SONS, AND CO.

Aug. 8.—At the Swansea Ticketing, on Tuesday, 1976 tons of ore, averaging 22¾ per cent. fetched an average price of 14s. 9½d. per unit. Privately we note only 500 tons Chili regulus, in same port, at 15s. 6d. per unit. For bars there has been a tolerably good demand, and purchasers were compelled to pay full rates. Transactions for the week amount to 1045 tons, of which 320 Lots at 80*l.* 10s. up to 81*l.* 5s. cash, and 50 at 82*l.* 2s. 6d. with two months' prompt, 350 Urmeneta at 80*l.* 10s. to 81*l.* 10s. cash, 25 good ordinary brands at 81*l.* 10s. same terms, 300 picked and best brands at 82*l.* to 83*l.* 7s. 6d. cash, the prices varying according to mark. The shipments from Chili do not keep pace with the quantities chartered, although there is now a steamer leaving for England every week; and comparing this year with last the amount shows a deficiency of 6890 tons, which, if maintained until the close, would give an exportation of 39,695 tons for the 12 months, against 46,495 tons during 1872. Australian sorts show a like improvement to Chili; we note, from and including Friday last, 95 tons Burra at 90*l.* cash, 235 Wallaroo cake at 90*l.* to 91*l.* 5s., and 50 tons Currawong at 91*l.* 10s. per ton. The deliveries, it will be noticed, have exceeded the imports by 2122 tons, and as the stock is now comparatively moderate, the old difference in price between this description and Chili, of about 10*l.* per ton, has been re-established. English is steady, and it is difficult to obtain prompt delivery of manufactured. Owing to difficulties with the workpeople, makers object to roll thin sheets, and several are altogether refusing such orders.

The following are the Government returns for this year, as compared with 1872 and 1871: and in order to show the quantity of metal imported, ore has been reduced as containing 15 per cent. regulus, 50 per cent of pure copper.

	1st January to 30th June		
IMPORTS.	1873.	1872.	1871.
Copper in ore .....Tons	3,876	3,543	3,499
Ditto in regulus	7,430	7,833	7,305
Ditto in bars, cakes, ingots, &c. ...	17,172	23,325	17,355
	28,478	34,701	28,159
EXPORTS.			
Foreign copper	10,759	4,368	5,644
Raw English ditto	7,379	7,170	5,556
Manufactured ditto	5,137	4,855	5,828
Yellow metal	4,864	5,517	5,449
Brass	1,718	1,457	1,748
	29,957	23,367	24,225

The following were the stocks (estimated in pure copper) in the ports named, also the quantity of Chili chartered and afloat for same.

		1873.			Aug. 1.		
		July 1.		1873.	1872.	1871.	
Liverpool and Swansea.	Chili—in ore, regulus, and barilla....Tons	1,187	...	2,553	... 4,177	... 525	... 4,421
	Chili—in bar and ingot	22,366	...	20,194	... 19,681	... 17,088	... 14,974
London ...	Foreign copper, chiefly Australian	7,432	...	5,886	... 5,534	... 7,864	... 4,080
	English copper	368	...	288	... 273	... 491	... 739
Havre	Chili bar and Barilla...	688	...	1,705	... 1,845	... 150	... 5,095
	Other foreign	650	...	250	... 300	... Nil	... 1,048
Available stocks		32,751	...	30,875	... 31,812	... 26,028	... 30,357
Chili, chartered and afloat ...		9,574	...	9,222	... 7,672	... 11,802	... 7,803
Gross total		42,325	...	40,097	... 39,484	... 37,830	... 38,160
Stock in Chili, including 1 month's estimated make		4,250	...	5,700	. unknown .	3,500	... 9,500

The following were the imports—Jan. 1 to July 31:—

	1873.	1872.	1871.
West Coast copper into England and France ...Tons	23,671 ...	28,614 ...	22,015
Other foreign into London	8,196 ...	11,295 ...	5,992
Total	31,867 ...	39,909 ...	28,007

JAMES AND SHAKSPEARE.

THE TIN TRADE.

Messrs. Van Houten and Ebeling (Rotterdam, July 31) write—Throughout this month the Tin Market has been weak and inanimate, resulting in a decline of about 3 fl. For Banca the demand has been limited; after receding from 82½ fl. to 79½ fl. the price improved to 80½ fl., but with more pressure to sell another decline to 79½ fl. took place, from which at the close there is a recovery to 80 fl. Billiton has been in moderate enquiry at 80 fl. to 79 fl. On Monday, Aug. 4, a public sale, comprising 9000 peculs Billiton, will take place at Batavia. The position of Banca tin in Holland on July 31, according to the Official Returns of the Dutch Trading Company, was:—

	1873.	1872.	1871.
Import in July .....Slabs	12,416	4,258	6,853
Total seven months	134,278	56,180	73,547
Deliveries in July	9,000	7,400	12,400
Total seven months	81,119	59,185	99,489
Stock second-hand	28,456	27,682	51,843
Total stock	154,124	63,397	122,626
Afloat .....Peculs	13,900	27,420	16,100
Statement of Billiton:—			
Import in July .....Slabs	4,500	6,234	1,273
Total seven months	29,600	25,542	29,795
Deliveries in July	3,800	1,359	3,500
Total seven months	41,140	21,683	27,271
Stock	13,353	7,615	3,924
Afloat .....Peculs	7,996	8,785	8,808
Quotation { Banca	80 fl.	96 fl.	80½ fl.
July 31 { Billiton	79	94	79½

These combined returns of Banca and Billiton for 1873, compared with those for 1872, exhibit—An increase of the import for July of 201 tons, an increase of the import for the seven months of 2880 tons, an increase of the deliveries for July of 127 tons, an increase of the deliveries for the seven months of 1293 tons, an increase of the stock second hand of 205 tons, an increase of the unsold stock of 2810 tons, an increase of the total stock of 3015 tons, a decline of the quotation of Banca of 26*l.* 14s. per ton. The Government returns for the month of May are as follows:—

EXPORT OF TIN FROM HOLLAND.

	May.			Five months.		
	1873.	1872.	1871.	1873.	1872.	1871.
Germany .....Tons	295	198	277	1385 1098		1251
England	192	10	183	888	77	698
Belgium	136	72	94	472	448	317
France	46	6	37	213	38	174
Hamburg	19	39	15	146	135	87
United States	—	—	—	—	—	—
Other countries	65	83	80	92	107	151
Total	753	408	686	2196	1903	2678

THE COAL TRADE.

Mr. J. R. Scott, the Registrar of the London Coal Market, has published the following statistics of imports and exports of coal into and from the port and district of London, by sea, railway, and canal, during July, 1873:—

IMPORTS.

By sea.	Ships.	Tons.
Newcastle	189	116,956
Seaham	21	10,347
Sunderland	67	41,044
Middlesborough	6	2,392
Hartlepool	42	15,595
Scotch	22	4,732
Welsh	4	1,344
Yorkshire	61	12,251
Duff	1	281
Small coal and cinders.	10	1,307
Total	423	206,249
Imports during July, 1872	382	189,499

By Railway and Canal.	Tons.
London and North-Western	[illegible]
Great Northern	77,427
Great Western	87,080
Midland	81,428
Great Eastern	147,694
South-Western	69,507
South-Eastern	3,322
Grand Junction Canal	989
	796
Total	444,287
Imports during July, 1872 ...	436,811

Comparative Statement, 1872 *and* 1873.

	Ships.	Tons.
Jan. 1 to July 31, 1873	3006 ...	1,531,802
Jan. 1 to July 31, 1872	2892 ...	1,516,804
Increase in the present year	114 ...	14,998

	Tons.
Jan. 1 to July 31, 1873 ...	2,960,040
Jan. 1 to July 31, 1872 ...	2,885,571
Increase in the present year	12,471

EXPORTS.

Export List, showing the distribution of coal imported into the port or district of London, by sea, rail, and canal, and afterwards exported coastwise or to foreign parts, or sent beyond limits of London district, by rail or inland navigation, during July, 1873:—

Railway-borne coal passing "in transitu" through district .....Tons	[illegible]
Sea-borne coal exported to British possessions, or to foreign parts, or to the coast	70,[illegible]
Ditto, sent beyond limits by railway	37,915
Ditto, by canal and inland navigation	8,420
Railway-borne coal exported to British possessions, or to foreign parts, or the coast	2,222=48,[illegible]
Ditto, by canal and inland navigation	22,336
Seaborne coal brought into port and exported in same ships	45=22,[illegible]
Total quantity of coal conveyed beyond limits of coal duty district during July, 1873	1,[illegible]
Ditto, during July, 1872	142,[illegible]
	117,[illegible]

Comparative Statement, 1872 and 1873.

Total distribution of coal from Jan. 1 to July 31, 1873	[illegible]
Total distribution of coal from Jan. 1 to July 31, 1872	1,[illegible]
	914,[illegible]
Increase in the present year	86,[illegible]

General Statement, 1872 *and* 1873.

Increase in coal exported during the present year .....Tons	85,274
Less increase in coal imported:—	
Seaborne	14,998
Railway	12,471=27,469
Total decrease in coal consumed within the London district during the present year	58,805

AUSTRALIAN MINES.

PORT PHILLIP AND COLONIAL (Gold).—June 16: The quantity of quartz crushed during the month ending May 21 was 5023 tons; pyrites treated, 25 tons: total gold obtained, 1110 ozs. 10 dwts., or an average per ton of 4 dwts. 10 grs. The receipts were 4290*l.* 12s. 5d.; payments (including 385*l.* paid for firewood and timber and 270*l.* for sinking north shaft), 4107*l.* 4s. 7d.; profit, 183*l.* 7s. 10d., deducted from which was last month's debit balance of 79*l.* 13s. 6d., leaving a credit balance of 103*l.* 14s. 4d., which was carried forward to next month's account. During the two weeks ending June 4 the quantity of quartz crushed was 2172 tons; pyrites treated, 24 tons: total gold obtained, 529 ozs. 7 dwts., or an average per ton of 4 dwts. 11 grs.

AUSTRALIAN UNITED.—Capt. Angwin, June 16: We struck water in the north drive on Saturday last. I washed a dish of dirt, which proved satisfactory. There is a heavy flow of water coming from the face, which will cause driving to be slow and troublesome; but I think it will soon drain. Of course, I cannot give a decided opinion of the gutter in this part of the mine until we have driven across it. At 300 ft. east in the same gutter we have extended a drive 100 ft. north-west, and also driven 116 ft. across the gutter, from which we have had profitable wash. Gold to be seen in the faces. Washed 400 trucks of dirt during the last week, which yielded 14 ozs. of gold. As I stated in my last report, that after the ground is opened and commenced to block, which will take us two or three months, no doubt it will become a dividend-paying mine. I have a good opinion of the mine.

ANGLO-AUSTRALIAN.—Capt. Raisbeck, June 16: East Shaft: We have sunk since May 20 16 ft., and secured same with timber 20 ft. We are sinking through slate country, with small quartz leaders at intervals; the appearance of the country is more favourable for quartz than it has ever been. We have commenced to open out for chamber east side of shaft at 320 ft., also to tap the water, which has been an impediment to the sinking for the last 50 ft. We will tap the principal part of the water 15 ft. east of shaft. Present depth of shaft, 322 ft. In the prospecting shaft, south end of the hill, we have sunk 18 ft. We have not met with sufficient inducement to warrant us to open out as yet; we are continuing sinking; present depth, 101 ft. On May 19 we commenced to repair and clean out a shaft 130 ft. north of Redhouse's north boundary; we found the shaft to be 120 ft. deep. This shaft was sunk by Redhouse many years ago, for the purpose of working a series of strong payable leaders which is in the present claim he now holds, and has been profitably worked to within 170 ft. of our shaft. We have sunk 16 ft. In the last 6 ft. we passed through three leaders. From the appearance of the stone, and the depth of the shaft, I expect that they are the top leaders referred to above. Mr. Lamb also writes, under date June 17:—Good progress has been made during the past month in the sinking of our three shafts on the eastern side from lease. The old shaft, north of our eastern engine shaft, to which I referred last mail, is now down 136 ft. We have cut some nice-looking quartz leaders, and in a few feet more expect to reach a body of payable stone. We have have not yet been enabled to engage good miners to put in the south shaft on the west side of your lease. The main shaft, on our west, has been entirely neglected for months past. It is 220 ft. deep, and at bottom has a cross-cut in west 150 ft. Both this cross-cut and sinking the shaft ought to be continued at the same time as the work on the eastern side of our ground, at one expense of management, fuel, &c. I believe the western ground to be the best and most permanent, but, from the hardness of ground in the western shaft, we cannot, with our present funds, attempt the work, because it is a work of time and money. We are now employing two batteries crushing quartz for the Black Hawk Gold Mining Company, whose claim is over one mile south of us, and who are raising rich stone on the western run of country. Their crushing of about 150 tons will give at least 1 oz. to the ton. They clear up in about four days from now."

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney, dated June 14, with reports from the Lambton Colliery to June 10. The sales of coal for the month of May amounted to 13,662 tons.

YORKE PENINSULA.—The directors have advices from Adelaide, dated June 17, with reports from the Kurilla Mine to the 13th. The following are extracts from Capt. Anthony's report:—Since my last monthly report I have driven the 10, west of Deeble's shaft, on the north wall of the lode, about 7 fms. The wall has been well defined and regular all the way, showing that we had not in any of the former works fully ascertained the width of our lode, which is now proved to be over 20 ft. in width. The vein in this wall has hardly been destitute of ore for the whole distance, but being narrow the yield of saving ore is small. This drive gives us some idea of what may naturally be expected from so wide a lode as the deep levels when they are reached. I need not inform you that our operations are limited, but I have been able with the very small means at hand to collect from the back of the 25, east of Hall's and west of Deeble's, about 30 tons of ore, which is now being dressed for the smelting-works. This confirms what I have before said, that with a full supply of men and the means of advancing the regular amount of subsist ruling in this locality it would not be a difficult matter to pay the cost of the mine even now. * * * Referring to the rich lode at the Devon Consols I beg to inform you that it has no direct connection with our lode, but lies parallel to it, and that indirectly, and in its geological bearing, it is of the greatest interest to us, as it shows that the riches are not confined to the Wallaroo mines, but that lodes equally rich exist parallel to them, and the natural inference is (and that entirely apart from the proof by actual trial which we have made) that we may drop on deposits equally rich in our lode, which is also parallel to those lodes, and at right angles to their best deposits—the very position in which to expect a good lode. * * * I consider, lying as it does between the Wallaroo and Devon Consols on the north and the Doora on the south, that this (Kurilla) is the most valuable property in this locality.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for June is 18. They have consumed 2316 tons of coal, and lifted 17·3 million tons of water 10 fms. high. The average duty of the whole is, therefore, 50,200,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Crenver and Wheal Abraham	—Sturt's 90 in.	Millions 581
Ditto	—Pelly's 80 in.	56·4
Ditto	—Willyams's 70 in.	60·0
Dolcoath	—85 in.	60·3
West Chiverton	—New 80 in.	64·9
West Wheal Seton	—Harvey's 85 in.	62·1

SAFETY-LAMPS.—Messrs. SUTCLIFFE and CLAYTON, of Dewsbury, have patented an improvement in miners' safety-lamps, the object of which is to prevent the removal of the gauze cover from miners' lamps without instantly extinguishing the flame, and consists of an extinguisher, of suitable size and form, which slides upon two upright stands, fixed to the oil receptacle, and is suspended clear of the flame by means of a catch lever hinged to one of the uprights. This catch lever is connected with a jointed arm passing through a slot in the top part of the oil receptacle, and at the bottom part of the gauze cover is a rack or ratchet; but screwing on the cover the jointed arm gives way to the teeth of the ratchet; but on attempting to unscrew the cover the arm is actuated and operates on the lever, releasing the extinguisher, which drops on the flame. A lock pin is provided, by which the cover can be fastened, which is then sealed, to prevent tampering with or attempting to unlock it.

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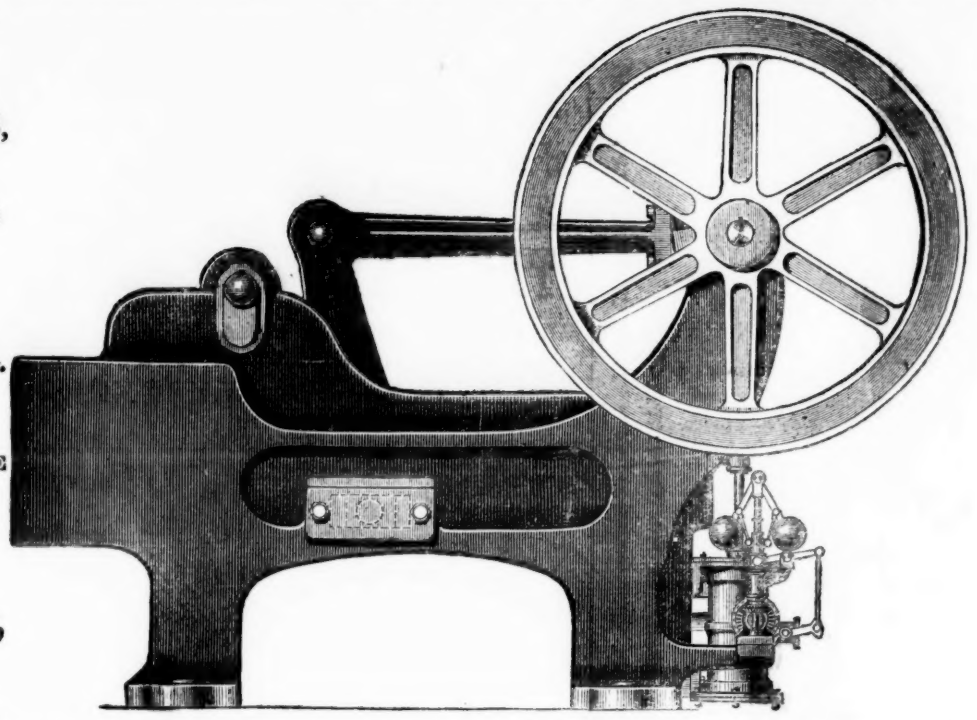

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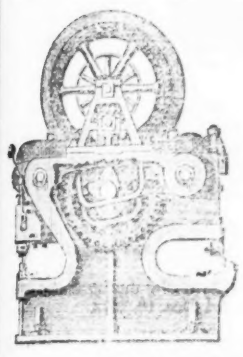

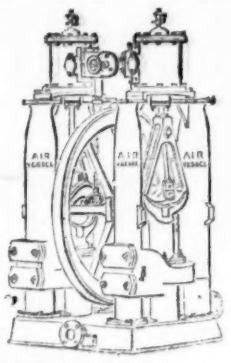

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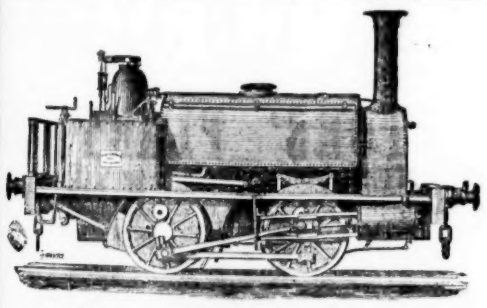

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PENETRATES GRANITE 6 TO 12 INCHES PER MINUTE.
MACHINES WARRANTED.

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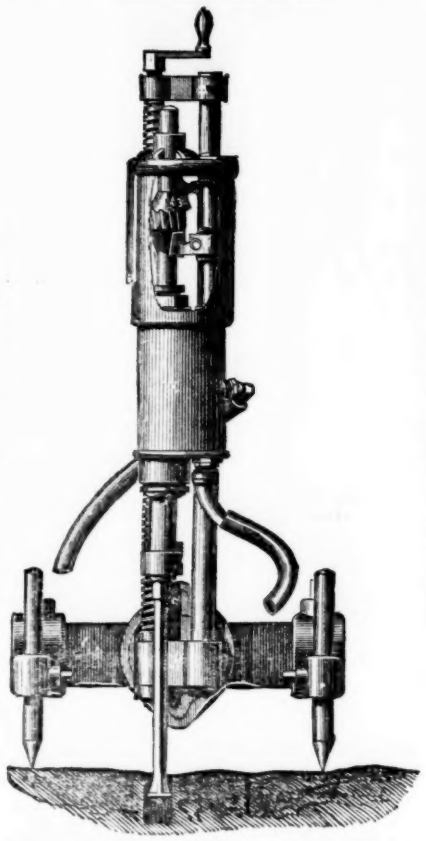

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Mr. George Green, Aberystwith. —— (per T. TAYLOR.)

FROM CAPT. HENRY TYACK, M.E., EAGLE BROOK MINE, CARDIGANSHIRE.

Eagle Brook Mine, December 27th, 1872.

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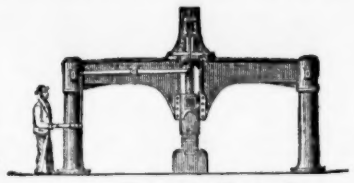
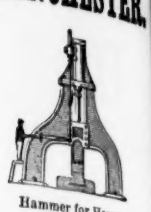

Hammer for Wheel-making, Copper Work, &c.


Hammer for General Smith Work, &c.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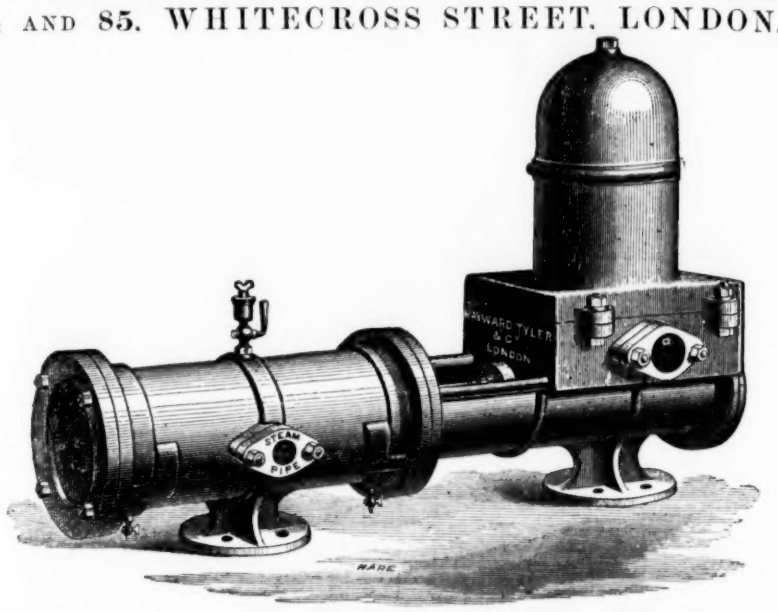

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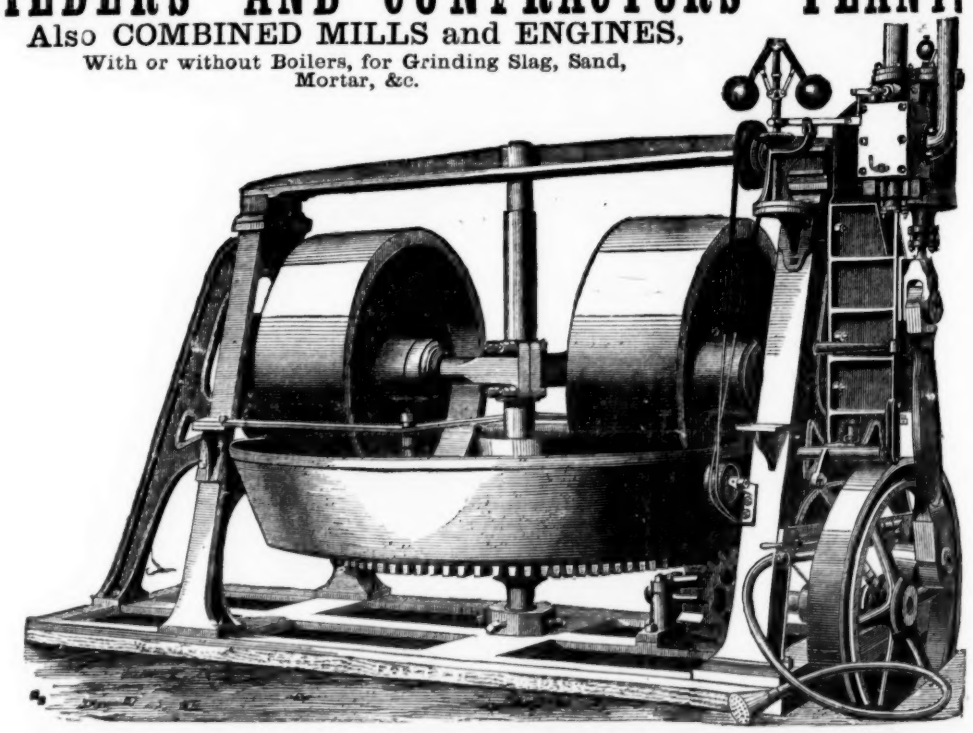
With or without Boilers, for Grinding Slag, Sand, Mortar, &c.



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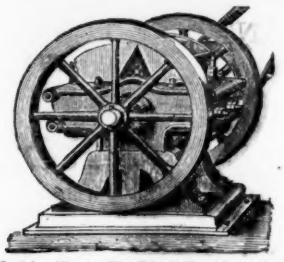

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Messrs. T. BROWN and Co., ENGINEERS, have much pleasure in calling attention to their IMPROVED MACHINERY for STONE BREAKING and QUARTZ CRUSHING, for crushing, grinding, or triturating Stone, Flint, Minerals, Ores, Chemicals, and other substances; for washing and separating Metals from Ores, and for extracting Gold from Quartz.

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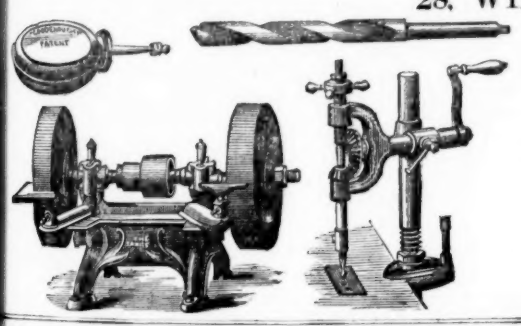

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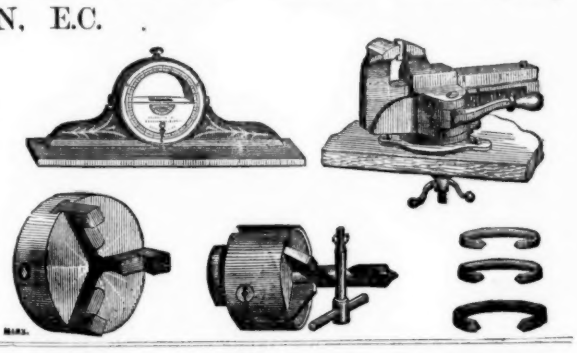

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

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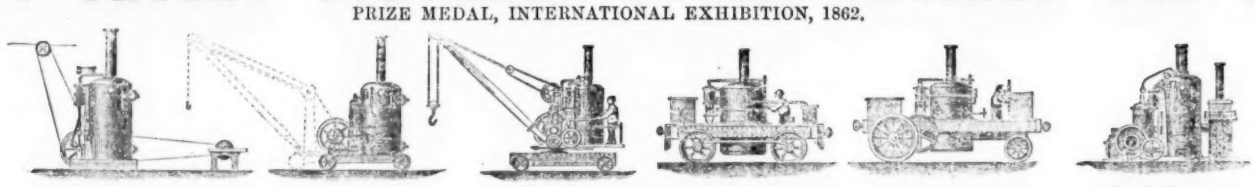

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STEAM CRANE,* 30 cwts. to 20 tons. For wharf or rail.

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SHIP'S ENGINES, Winding, Cooking, and Distilling. Passed by Government for half water.

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Brydon Davidson, and Warrington's Patent.

References, particulars, Estimates, &c., Sent on application.

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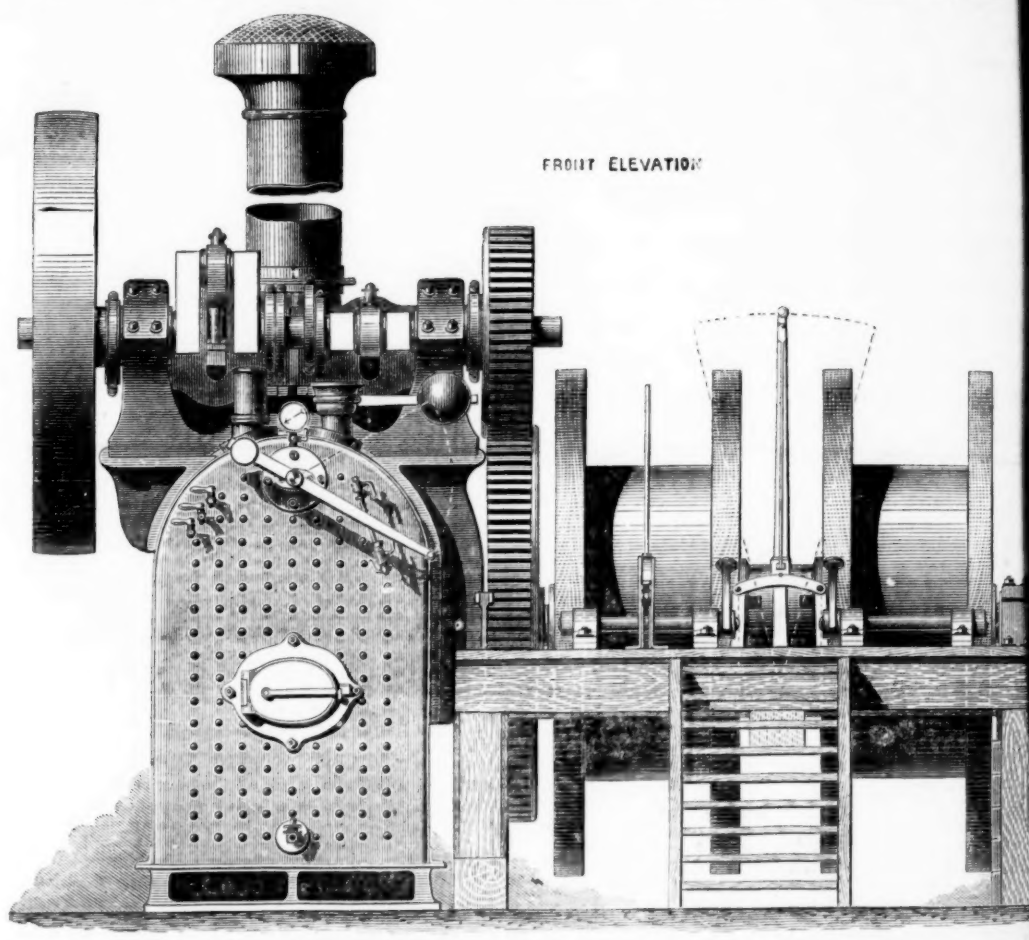

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